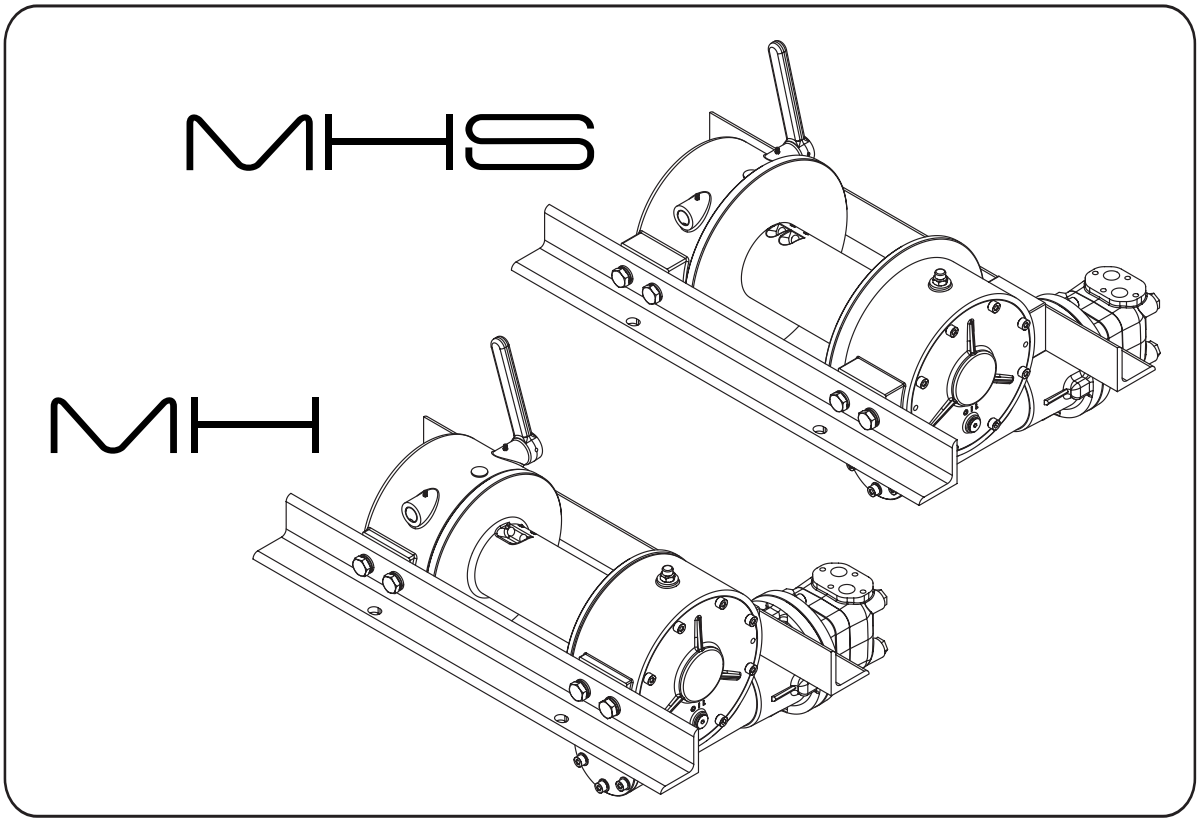
VIME INDUSTRIAL
The Quality is Transparent

MH
MHS

ENGLISH

OPERATING SERVICE AND MAINTENANCE MANUAL



WORM GEAR HYDRAULIC WINCH

Because of continued product improvement, we reserve the right to make changes without notice.

CE
EN 14492-1

⚠ WARNING

Read and understand this manual before installation and operation of winch.
Keep this manual with the winch at all times.

VIME has no responsibility for physical injury to persons, animals or property damages. That can result from failure to read and apply the instructions contained in the manual supplied with the winch and especially for: Failure with global safety aspects - Not correct linking to the source of energy – Deficiency in the annual and monthly maintenance - Improper uses - Any alteration, repair or modification from unauthorized personnel.

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E-mail: info@vimeindustrial.com / Web site: www.vimeindustrial.it - www.vimeindustrial.com

02/2011 - UK - REV A - 07 - EN 14492-1

WARNING

Do not operate this winch until you have fully read this manual.

Many accidents are due for non observance safety procedures. A good reason, most of it can be avoided by knowing causes and taking in advance the opportunity safety.

WARNING

Read and understand this manual before installation and operation of winch.

Model		MH 7000 MH 7850 MHS 8000
Serial Number		
Manufacture year		
Max. rated line pull	• MH 7000 • MH 7850 • MHS 8000	7.000 kgs 7.850 kgs 8.000 kgs
Wire rope diameter	• MH 7000 • MH 7850 • MHS 8000	Dia. 13 mm Dia. 13 mm Dia. 14 mm
Max. pressure	• MH 7000 • MH 7850 • MHS 8000	130 bar 150 bar 160 bar
Weight (without cable)	• MH 7000 - MH 7850 • MHS 8000	112 kgs 125 kgs

TABLE OF CONTENTS

TABLE OF CONTENTS

SECTION 1
SAFETY PROCEDURES

1.1 PREMESSA

Manual identified by code No. 02/2011 - UK - REV A - 07 - EN 14492-1 has 50 pages.

IMPORTANT

At the delivery of this manual checks all data and for possible incongruities.

VIME reserves the right to improve its products through changes in designed or materials as it may seem desirable without being obligated to incorporate such changes in this manual.

This manual contains useful ideas in obtaining the most efficient operation and maintenance from the winch and safety procedures one need to know before operating a winch.

For safety procedures, read carefully safety procedures in chapter 1.7.

Manual has to be kept intact and near to the winch for a prompt reading and consultation.

WARNING

In case of misunderstanding of this manual or parts of it, please contact VIME. For repair service contact VIME.

For a rapid consultations, manual is being shared in 7 sections:

Section 1 Safety procedures
Section 2 Mounting
Section 3 Operation
Section 4 Accessories
Section 5 Maintenance
Section 6 Trouble shooting guide
Section 7 Parts list

Section **1** contains warning symbols, winch description and alls data for **SAFETY PROCEDURES**. Section **2** contains note about road traffic, hydraulic system, winch and cable drum installations. Section **3** contains alls data for winch operations. Section **4** accessories description. Section **5** is referred to the operator in charge of the winch maintenance. In this section are indicated all procedures as well as the maintenance must be executed in winch life. Section **6** is a guide for a trouble shooting should verify in winching operation. Section **7** contains parts list codes and parts drawing. All sections are shared in chapters progressive numbered. Chapters are shared in subsections progressive numbered.

IMPORTANT

For a rapid reading see table of contents.

1.2 SYMBOLS

In this manual there are three different symbols to prevent serious injuries.

• "DANGEROUS " symbol

DANGEROUS

Used to indicate dangerous situation and prevent injury.

• "WARNING" symbol

WARNING

Used to indicate dangerous situation for winch efficiency and for operator safety.

• "IMPORTANT" symbol

IMPORTANT

Used to call attention on important informations which user must knowing.

In addition to all warning symbols has been used a symbol to underline the notes.

• "NOTE" symbol

NOTE

Used to call attention on informations or advices that could help on winching operation.

The various symbols are completed by messages that describe in detail such warnings and dangerous situation, not neglecting to point out the recommended procedures and the useful informations.

1.3 SYMBOLS

According to EEC Directive Machinery 2006/42/CE, on VIME'S winches there are, in a visibile position for the utiliser, the following symbols:

CABLE INJURES KEEP CLEAR
(roller fairlead)

KEEP SAFETY DISTANCE
(winch identification decal)

READ CAREFULLY THE OPERATING SERVICE AND MAINTENANCE MANUAL (winch identification decal)

WEAR WORKING GLOVES
(winch identification decal)

IMPORTANT

We recommend to respect the symbols above.
It is necessary to recognize the meaning of symbols and keeping visibile and readable.
If decals are damaged or unreadable replace it.

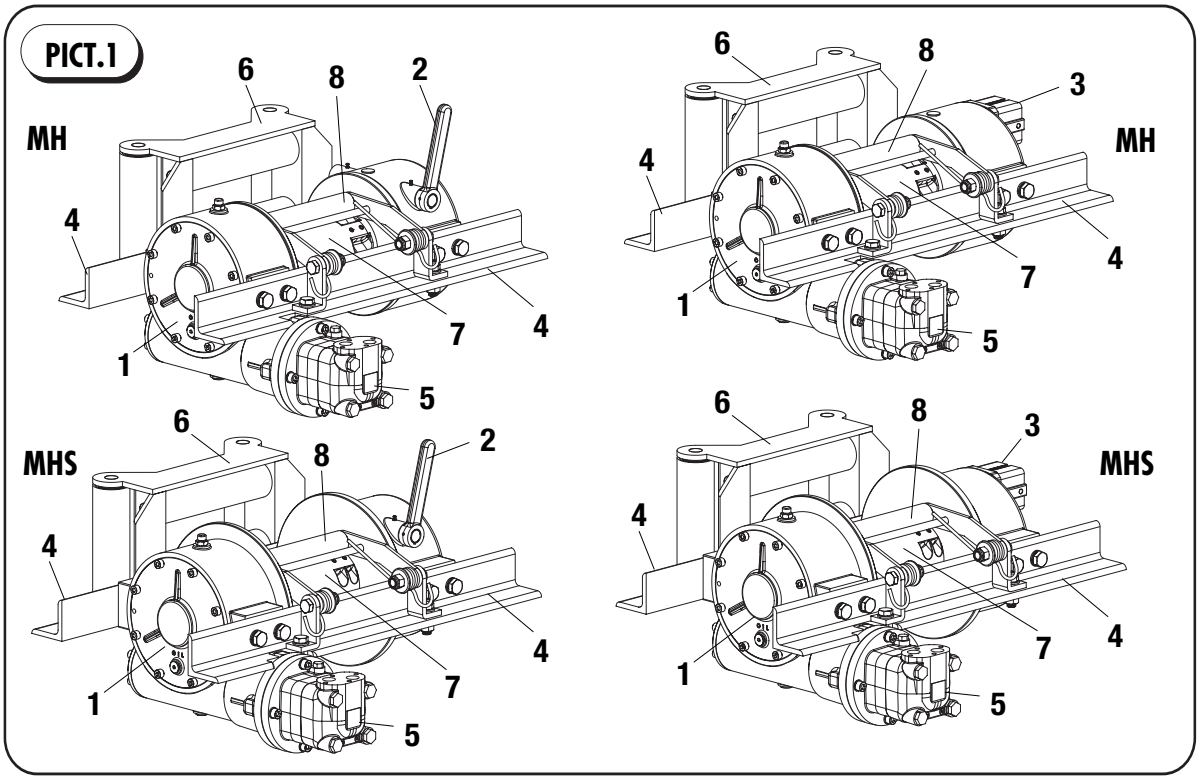
1.4 DESCRIPTION

Model MH-MHS are hydraulic worm gear winches. Designed for extend life and gives best safe duty. This winch is built according with higher safety standards to complaint with Directive Machinery 2006/24/CE EN 14492-1. The special aluminium alloy bronze gear match to an hardened steel ground polished worm. Worm gear provides load reversing protection. Particularly fit for tow-trucks and for medium-heavy duty truck carrier applications. The particular design make it proper for front or rear medium-heavy trucks mounting.

WARNING

The winch is built for working on range temperature between –20°C and +50°C. Do not exceed the range temperature it may be cause damage.

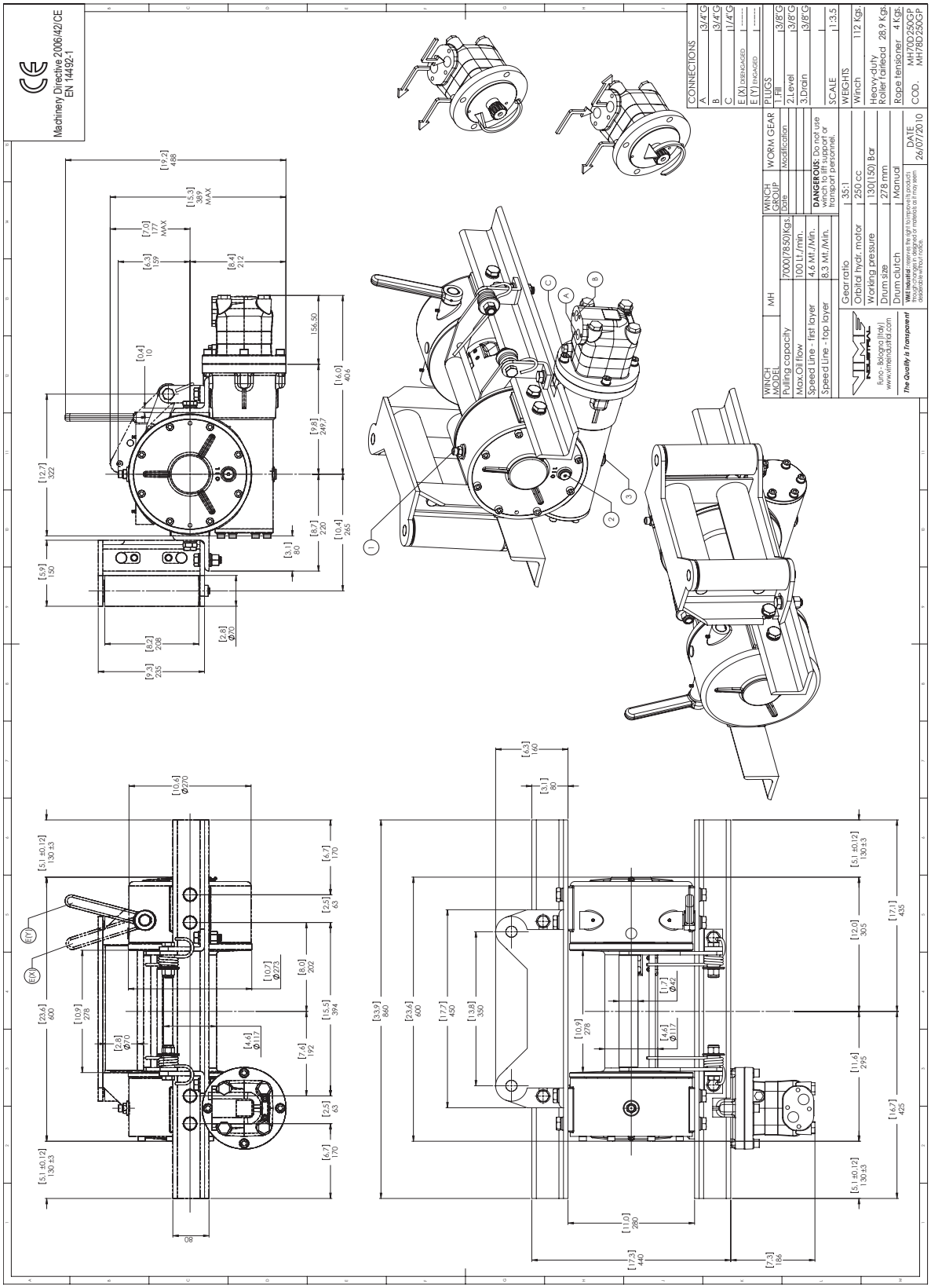
1.4.1 WINCHES DESCRIPTION



Components:

1. Worm gear housing
2. Manual clutch for drum free spooling
3. Air-cylinder clutch for drum free spooling (on request)
4. Standard mounting angles 860 mm / 33,9 inch
5. Orbital hydraulic motor 250 cc
6. Zinc plated Heavy-duty roller fairlead
7. Drum - lateral flanges diameter: diam.273 mm / 10,7 inch - MH diam.330 mm / 13,0 inch - MHS
8. Cable tensioner: copolymer acetate roller

1.4.2 MH 7000-MH 7850 WINCH DIMENSIONAL DATA



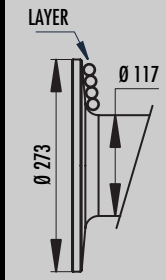
1.4.3 MH 7000 WINCH TECHNICAL DATA

RATIO	WIRE ROPE SIZE [MM]	LAYER	LINE PULL [KGS.]
35:1	13*	1	7.000
		2	5.833
		3	5.000
		4	4.375
		5	3.889

OIL SUPPLY [LT/MIN]	DRUM REVOLUTION [RPM]	LINE SPEED [MT/MIN] 1	2	3	4	5
60	6,7	2,8	3,3	3,9	4,4	5,0
80	9,0	3,7	4,4	5,2	5,9	6,6
100	11,3	4,6	5,5	6,5	7,4	8,3

WIRE ROPE MINIMUM BREAKING LOAD EN 14492-1 [KG]	14.000

DRUM SIZE MH = 278 MM



LAYER	DRUM DIAMETER Ø MM		WIRE ROPE ON LAYER [MT] 13 MM	00 MM	WIRE ROPE QUANTITY [MT] 13 MM	00 MM
6	260	-	16,7	-	74,9	-
5	234	-	15,0	-	58,3	-
4	208	-	13,3	-	43,3	-
3	182	-	11,7	-	30,0	-
2	156	-	10,0	-	18,3	-
1	130	-	8,3	-	8,3	-
0	117	-	-	-	-	-

WIRE ROPE CAPACITY [MT] 13 MM	00 MM	MAX. WIRE ROPE CAPACITY EN 14492-1 [MT] 13 MM	00 MM	MAX. WIRE ROPE CAPACITY [MT] 13 MM	00 MM
30	00	58**	00	74	00

DESCRIPTION	WEIGHT [KGS.]
WINCH (WITHOUT CABLE)	112
ACCESSORY : HEAVY-DUTY ROLLER FAIRLEAD	29
ACCESSORY : CABLE TENSIONER	4

NOTE

Specifications are subject to change without notification and without incurring obligation. Specifications in this publication are theoretical and may vary depending on hydraulic system, environment, etc.

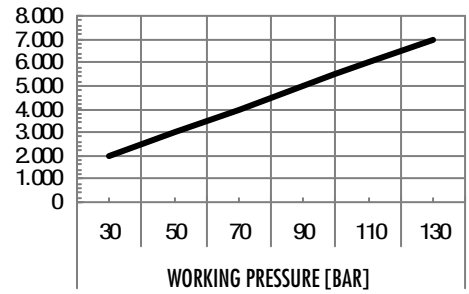
NOTE

*Wire rope size must be respected. Recommended wire rope min. tensile strength 2160 N/mm².
Wire rope minimum breaking load must be at least double of winch max. pulling capacity.

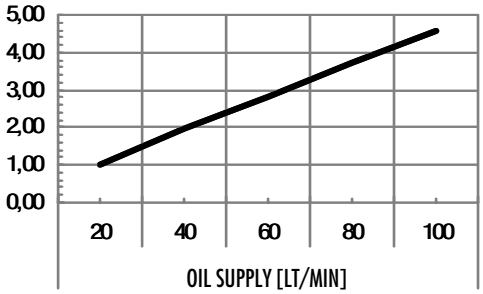
** Max. wire rope capacity according with EN 14492-1.

1.4.4 MH 7000 WINCH PERFORMANCE CHARTS AT THE 1ST LAYER

LINE PULL-FIRST LAYER [KGS]



LINE SPEED [MT/MIN]



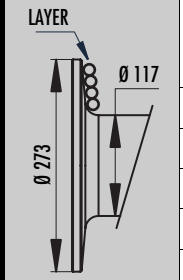
1.4.5 MH 7850 WINCH TECHNICAL DATA

RATIO	WIRE ROPE SIZE [MM]	LAYER	LINE PULL [KGS.]
35:1	13*	1	7.850
		2	6.545
		3	5.610
		4	4910
		5	4360

OIL SUPPLY [LT/MIN]	DRUM REVOLUTION [RPM]	LINE SPEED [MT/MIN] 1	2	3	4	5
60	6,7	2,8	3,3	3,9	4,4	5,0
80	9,0	3,7	4,4	5,2	5,9	6,6
100	11,3	4,6	5,5	6,5	7,4	8,3

WIRE ROPE MINIMUM BREAKING LOAD EN 14492-1 [KG]	15.700

DRUM SIZE MM = 278 MM



LAYER	DRUM DIAMETER Ø MM		WIRE ROPE ON LAYER [MT] 13 MM	00 MM	WIRE ROPE QUANTITY [MT] 13 MM	00 MM
6	260	-	16,7	-	74,9	-
5	234	-	15,0	-	58,3	-
4	208	-	13,3	-	43,3	-
3	182	-	11,7	-	30,0	-
2	156	-	10,0	-	18,3	-
1	130	-	8,3	-	8,3	-
0	117	-	-	-	-	-

WIRE ROPE CAPACITY [MT] 13 MM	00 MM	MAX. WIRE ROPE CAPACITY EN 14492-1 [MT] 13 MM	00 MM	MAX. WIRE ROPE CAPACITY [MT] 13 MM	00 MM
30	00	58**	00	74	00

DESCRIPTION	WEIGHT [KGS.]
WINCH (WITHOUT CABLE)	112
ACCESSORY : HEAVY-DUTY ROLLER FAIRLEAD	29
ACCESSORY : CABLE TENSIONER	4

NOTE

Specifications are subject to change without notification and without incurring obligation. Specifications in this publication are theoretical and may vary depending on hydraulic system, environment, etc.

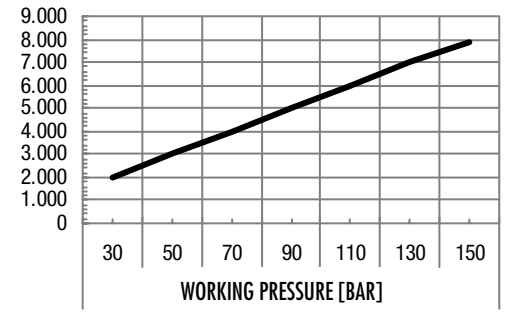
NOTE

*Wire rope size must be respected. Recommended wire rope min. tensile strength 2160 N/mm².
Wire rope minimum breaking load must be at least double of winch max. pulling capacity.

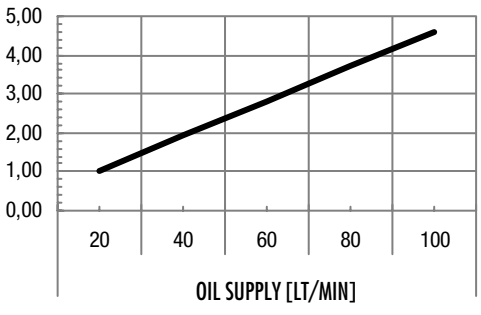
** Max. wire rope capacity according with EN 14492-1.

1.4.6 MH 7850 WINCH PERFORMANCE CHARTS AT THE 1ST LAYER

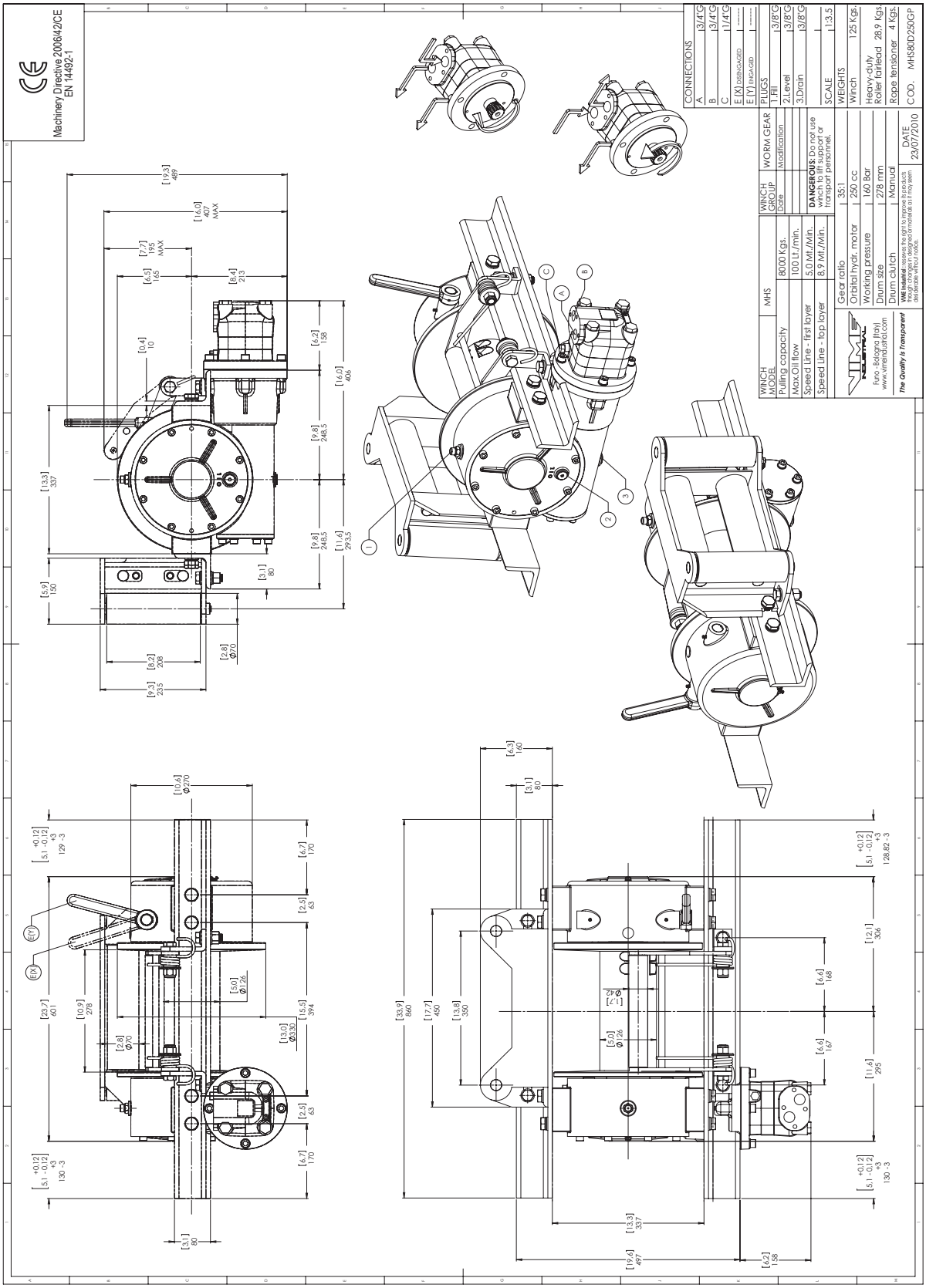
LINE PULL-FIRST LAYER



LINE SPEED [MT/MIN]



1.4.7 MHS 8000 WINCH DIMENSIONAL DATA



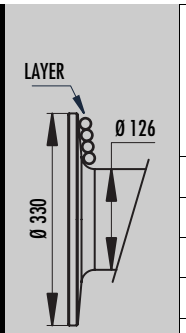
1.4.8 MHS 8000 WINCH TECHNICAL DATA

RATIO	WIRE ROPE SIZE [MM]	LAYER	LINE PULL [KGS.]
35:1	14*	1	8.000
		2	6.665
		3	5.710
		4	5.000
		5	4.440

OIL SUPPLY [LT/MIN]	DRUM REVOLUTION [RPM]	LINE SPEED [MT/MIN] 1	2	3	4	5
60	6,7	3,0	3,5	4,1	4,7	5,3
80	9,0	4,0	4,8	5,5	6,3	7,1
100	11,3	5,0	6,0	7,0	7,9	8,9

WIRE ROPE MINIMUM BREAKING LOAD EN 14492-1 [KG]	16.000

DRUM SIZE MHS = 278 MM



LAYER	DRUM DIAMETER Ø MM		WIRE ROPE ON LAYER [MT] 14 MM	00 MM	WIRE ROPE QUANTITY [MT] 14 MM	00 MM
5	252	-	14,9	-	58,1	-
4	224	-	13,3	-	43,1	-
3	196	-	11,6	-	29,9	-
2	168	-	10,0	-	18,2	-
1	140	-	8,3	-	8,3	-
0	126	-	-	-	-	-

WIRE ROPE CAPACITY [MT] 14 MM	00 MM	MAX. WIRE ROPE CAPACITY EN 14492-1 [MT] 14 MM	00 MM	MAX. WIRE ROPE CAPACITY [MT] 14 MM	00 MM
55	00	74**	00	90	00

DESCRIPTION	WEIGHT [KGS.]
WINCH (WITHOUT CABLE)	112
ACCESSORY : HEAVY-DUTY ROLLER FAIRLEAD	29
ACCESSORY : CABLE TENSIONER	4

NOTE

Specifications are subject to change without notification and without incurring obligation. Specifications in this publication are theoretical and may vary depending on hydraulic system, environment, etc.

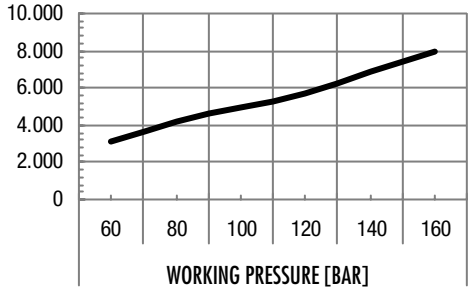
NOTE

*Wire rope size must be respected. Recommended wire rope min. tensile strength 2160 N/mm².
Wire rope minimum breaking load must be at least double of winch max. pulling capacity.

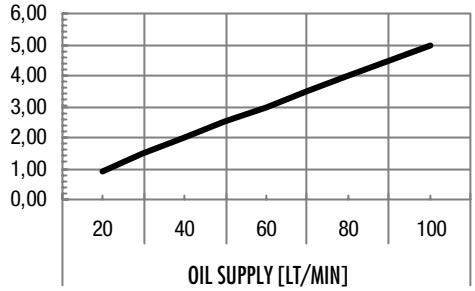
** Max. wire rope capacity according with EN 14492-1.

1.4.9 MHS 8000 WINCH PERFORMANCE CHARTS AT THE 1ST LAYER

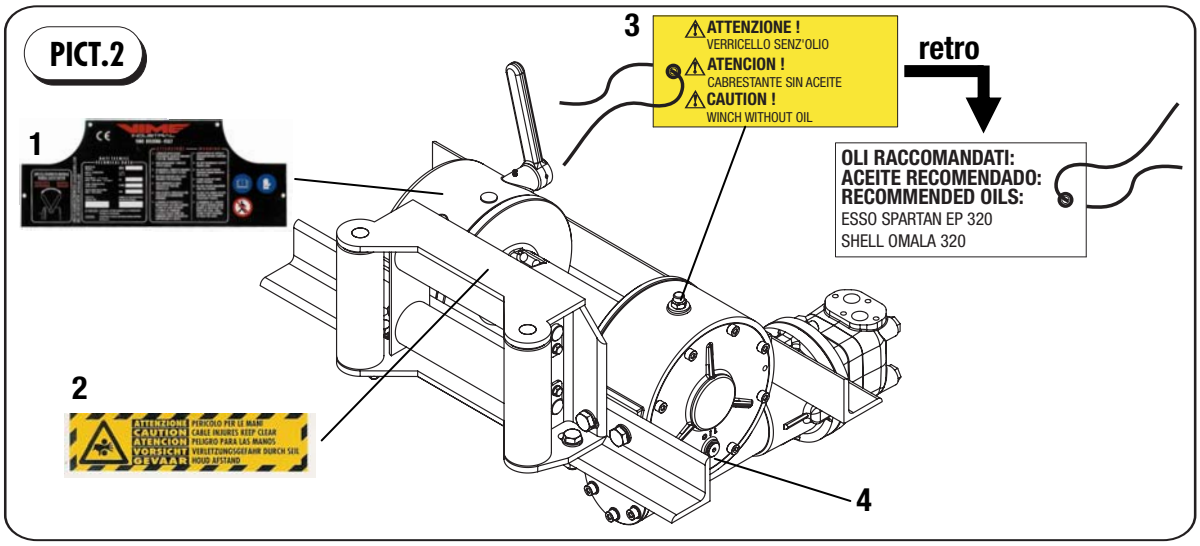
LINE PULL-FIRST LAYER [KGS]



LINE SPEED [MT/MIN]



1.5 WINCH DECALS. SAFETY ADVICES



A decal (1), onto the top of the clutch housing end gives: winch model, max pulling capacity at 1st layer, wire rope diameter according to the rule, working pressure, serial number and year of built. A yellow sticker (2) onto the roller fairlead, warns about rotating parts.

IMPORTANT

When ordering replacement parts or contact VIME's customers service, please give winch model and serial number.

Winch can be supplied with or without the orbital hydraulic motor. In both ways, if not specified in the commitment , the orbital hydraulic motor or if not included its adapter, are fitted onto the gear housing as shown in winch picture on manual's cover, and without the oil in the worm gear housing as warned by the yellow label (3), who gives in its back the recommended oils. If label (3) is missed, inspect oil level, through oil level plug (4).

IMPORTANT

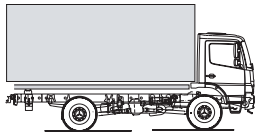
If decals are damaged or unreadable, replace it.

1.6 CONDITIONS OF SALE

The winch, except special customer requirements is delivered assembled and tested. Wire rope and hook are not included in the standard winch version, only if required are included in the commitment. At the delivery, open carefully the packing. Inspect the winch and see if it is free from defects.

IMPORTANT

In case of damages or missing parts, inform transporter immediately.



1.6.1 PACKAGING

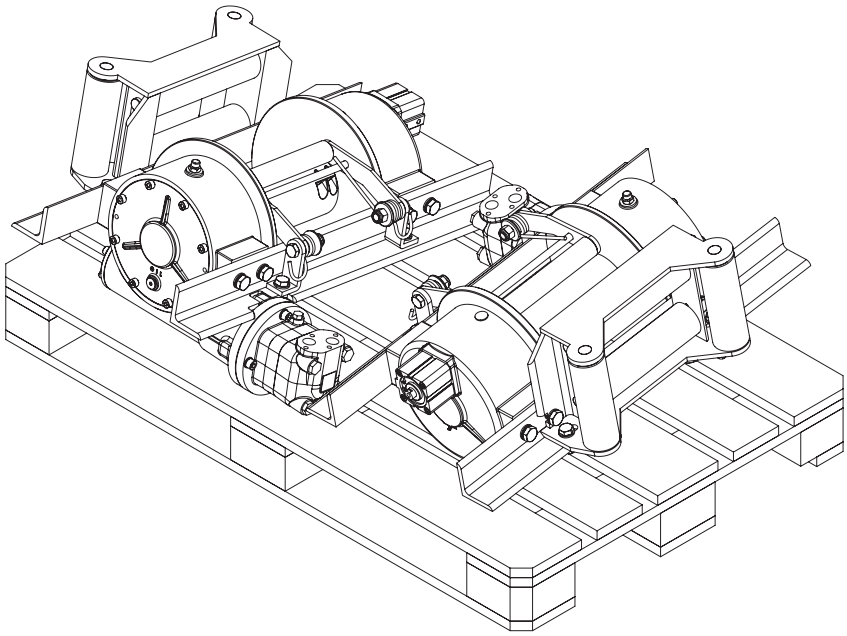
The standard packaging, if supplied, and unless otherwise agreed, is not rainproof and is intended for shipping by ground and not sea, and for areas which are under cover and not humid.

IMPORTANT

Dispose of packaging materials as stipulated by the applicable legislation.

1.6.2 PACKAGING ILLUSTRATION

PICT.3



NOTE

Winches in carton box on pallet are wrapped with plastic film. About its rainproof capacity, refer what indicated above.

1.7 SAFETY PROCEDURES

Do not operate this winch until you have carefully read and understand the warnings operation sections of this manual.

WARNING

Winch use allowed by trained personnel only.

DANGEROUS

When winching is obligatory wear working gloves.

1. Manual or air-clutch must be fully engaged before starting the winch.

2. Do not disengage manual or air clutch under load.

3. Leave the clutch disengaged when the winch is not in use (for manual clutch version only).

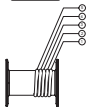
4. Do not exceed maximum line pull ratings.

5. In car carrier applications after pulling vehicle on carrier, be sure to secure vehicle to carrier bed. Do not maintain load on winch cable while transporting vehicle. Do not use winch as a tie down.

WARNING

Do not use winch to lift, support or otherwise transport personnel.

DANGEROUS



A minimum of 5 wraps of cable around drum barrel are recommended.

DANGEROUS

When pulling a load, the suddenly cable failure or either the hook failure gives a dangerous snap back of broken cable. Operators must stay clear of cable when pulling.

DANGEROUS

Accessories such as roller fairlead and cable tensioner are a natural drum protection. A yellow sticker (ref.2 pict.2 chapter1.5) on roller fairlead warns about rotating parts. In case of winch purchasing without accessories, winch drum must be protected by a cover. Protection will be fitted by the installer according to the winch mounting.

SECTION 2
MOUNTING

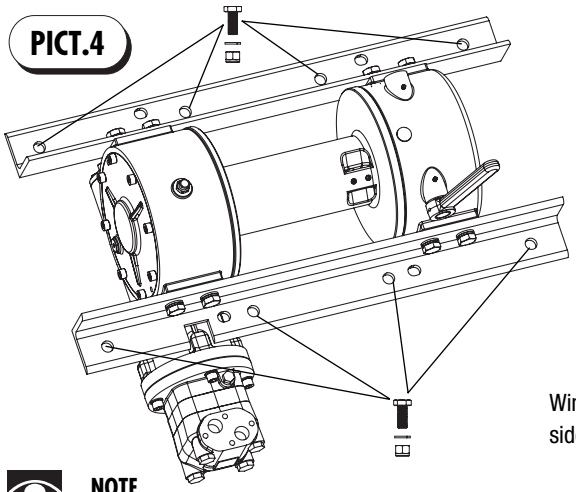
2.1 ROAD TRAFFIC

Winch must be mounted on vehicles in compliance with regulation. Many countries require to keep up to date with traffic card.

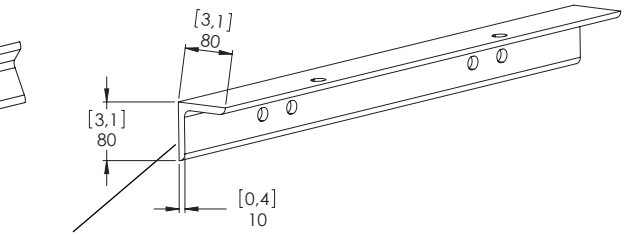
Do not drive vehicle not in compliance with regulation or not up dated traffic card.

2.2 WINCH MOUNTING

PICT.4



Standard mounting angle delivered mounted on winch:
dimensions 80x80x10 mm - 3,1x3,1x0,4 inch
length 860 mm - 33,9 inch



Winch mounting side

Dimensions [inch]
MM

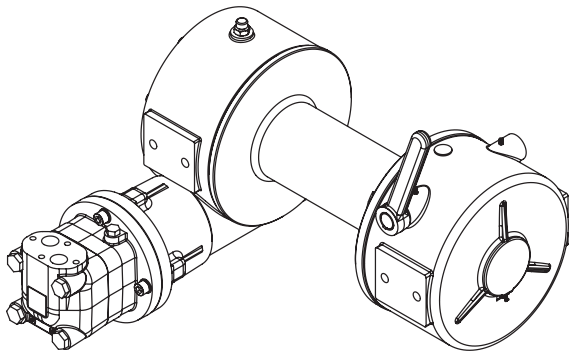
NOTE
The number 4 mounting angles holes on each side shown in pict.4, are not present at the delivery. Are shown in pict.4 just as demonstration. All others holes are for the accessories mounting.

Winches mod. **MH-MHS** are designed to be mounted on vehicles frame. The winch base angles should be securely mounted to the vehicle frame in manner acceptable to the vehicle manufacturer. It is responsibility of the person(s) installing the winch to make certain that the winch is secured to the vehicle with equivalent or greater strength capscrews than VIME Industrial used to secure the winch to the base angles. The winch must be fitted horizontally to give best lubrication and securely mounted on a surface who resist to the winch pulling, without having any flex within the base and winch while in use.

IMPORTANT

Winch is built up for different model of trucks. Holes on the mounting angles are present, installer will make it, taking care in consideration the right winch position on the truck.

Winch can be mounted without the mounting angles.



Winch must no be mounted directly onto the vehicle chassis, it should be better mounting a frame adapter brackets who can resist to the winch pulling. Mounting hole locations, size and thread depth are specified for every winch (pict.5-6).

WARNING

Winch must no be mounted directly onto the vehicle chassis.

WARNING

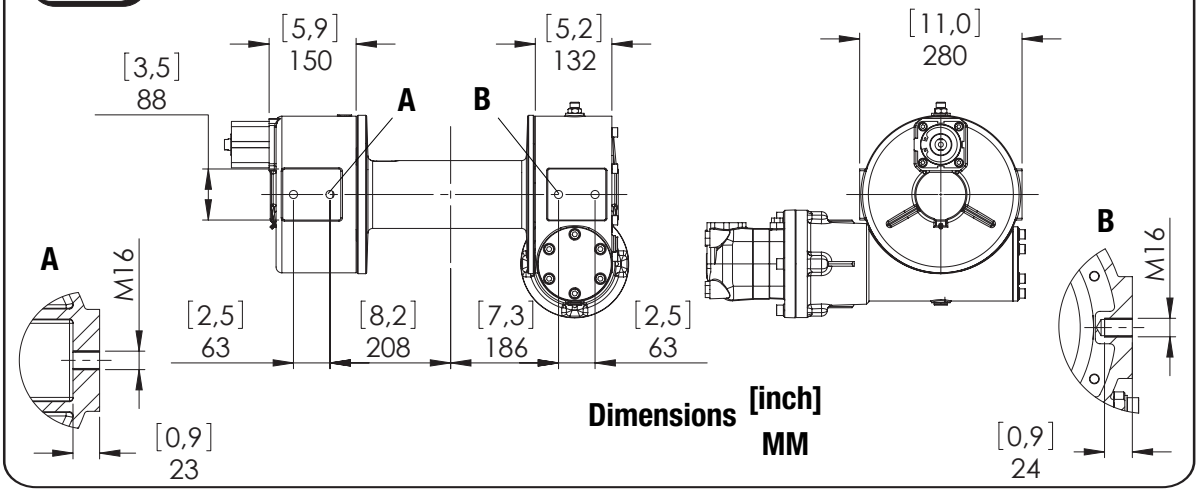
All mounting holes patterns should be used to bolt the winch.

WARNING

Use the mounting hole locations provided on the dimensional data pair dimensions of surfaces must be respected. A wrong winch mounting reduce winch performance, cause overheating, excessive wear and could damage the winch.

PICT.5

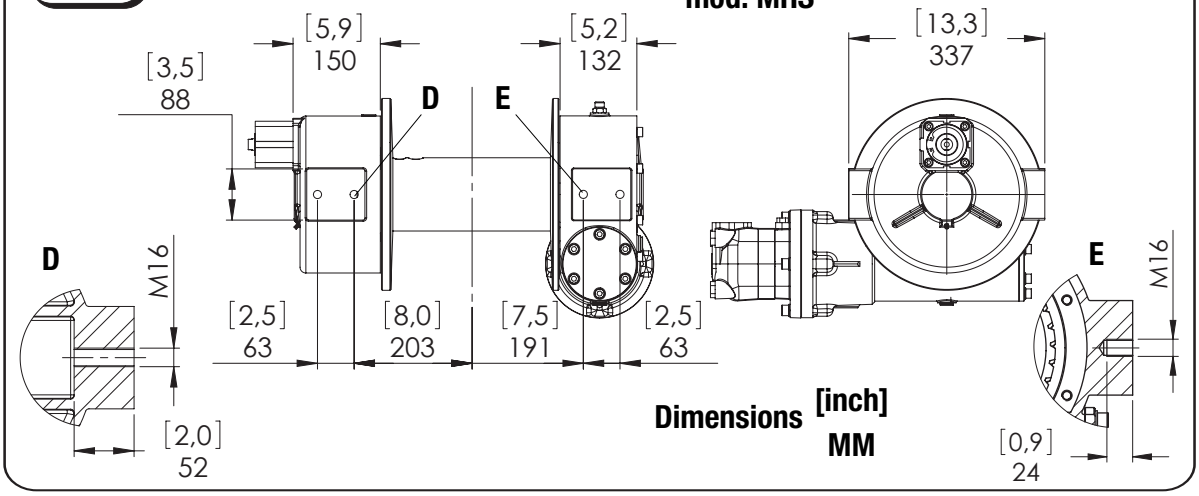
mod. MH



Dimensions [inch]
MM

PICT.6

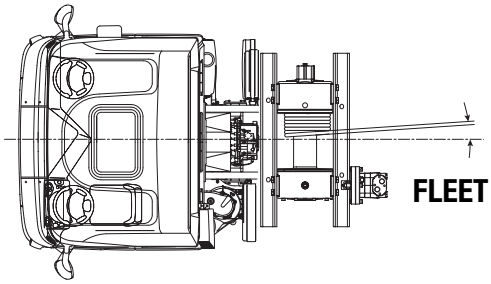
mod. MHS



Dimensions [inch]
MM

2.3 FLEET ANGLE

PICT.7



FLEET ANGLE

Winch should be mounted as close to centre and as perpendicular as possible to the direction of the line pull. This will keep the wire rope fleet angle centred onto the drum as small as possible.

DANGEROUS

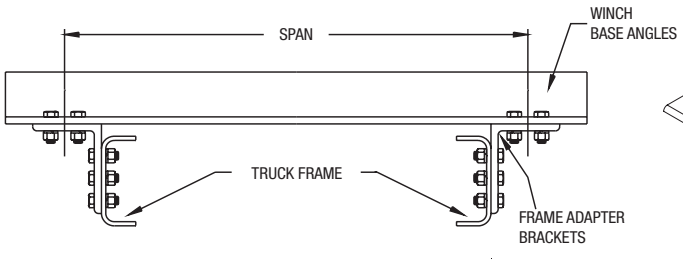
If the proper fleet angle is not maintained, the wire rope could wind onto one side of the drum. This could cause failure of the winch or wire rope, resulting in damage, injury or death.

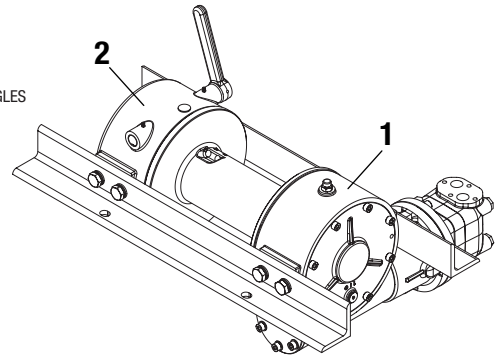
WARNING

A wrong or inadequate winch mounting could damage the winch.

2.4 WINCH MOUNTING ANGLES

PICT.8





To fit the winch on vehicle chassis it should be better mounting a frame adapter brackets bolted to the winch base angles as close to the gear housing (1) and clutch housing (2) as practicable (SPAN distance) shown in pict.8. This method would provide the greatest strength and minimize distortion by using frame adapter brackets not inferior to the base angles

WARNING

Winch must no be mounted directly onto the vehicle chassis.

IMPORTANT

In the winch mounting, check the gear housing end (1) clutch housing end (2) (pict.9), are properly aligned for not compromising the winch working.

WARNING

Excessive gear and bushing wear, difficult in drum freespooling, lowest winch performance are usually symptoms of misalignments.

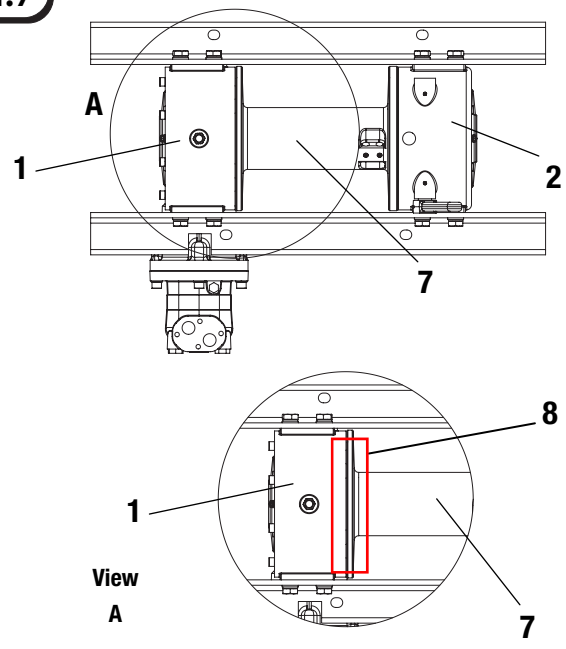
IMPORTANT

At the end of winch mounting, check winch alignment; with drum disengaged manually turn winch drum. A visual check could be done, inspecting the distance between drum flanges (7) and gear housing end (1) see view A, reference (8).

NOTE

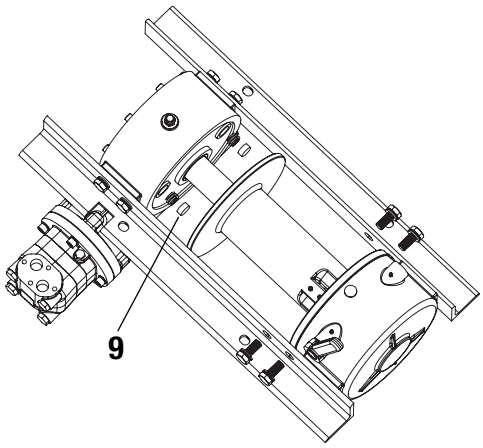
Turn by hands the drum, a certain resistance will be given by teflon discs (ref.9) who breaking onto the drum lateral flange, to avoid in the freespooling a cable birdnests.

PICT.9



NOTE

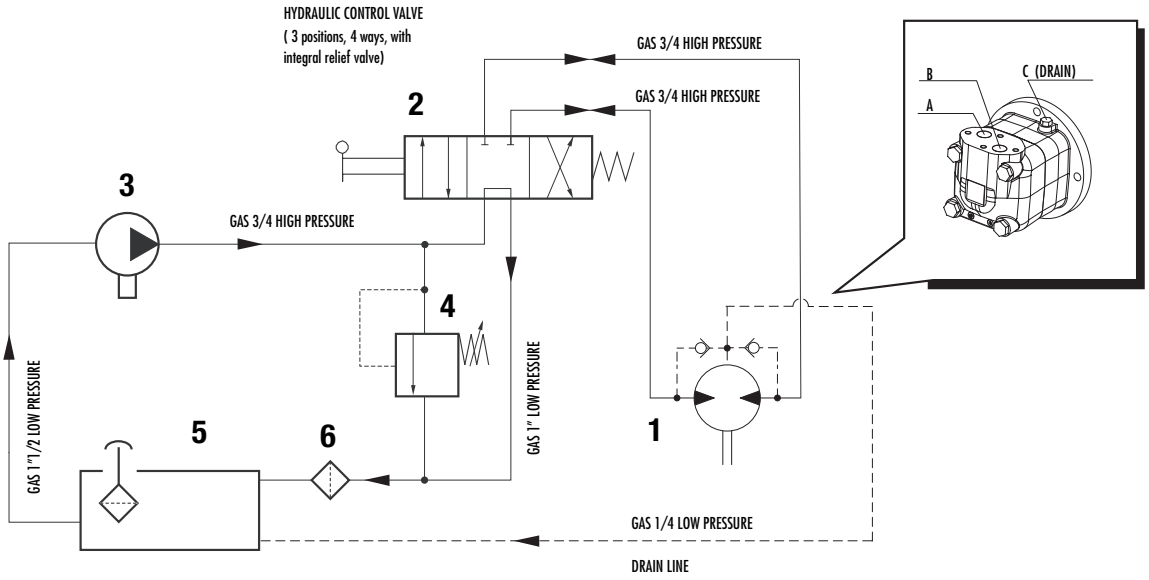
The no. 2 brake discs and springs here shown, are not visible, while winch is assembled. Pictures shown are just as demonstration.



2.5 HYDRAULIC SYSTEM

Once the winch has been mounted onto the vehicle chassis (chapter 2.2-2.3-2.4), should be connected to the hydraulic circuit according to the typical lay-out shown below. If conditions where the hydraulic system has only a winch which is used intermittently, where ambient temperature are moderate, and where excessive back pressure or internal leakage are not present, a reservoir equal in size to the flow of the system can be used. Hose lengths should be kept as short as possible. Sharp bends in hoses and tubing and 90 degree fittings, should be avoided since they increase back pressure.

PICT.10



NOTE
Hydraulic system shown in pict.10, is not included in winch equipment.

1. ORBITAL HYDRAULIC MOTOR
2. HYDRAULIC CONTROL VALVE
3. HYDRAULIC PUMP
4. RELIEF VALVE
5. FLUID RESERVOIR
6. FILTER: 40 µm / 25 µm - 20 µm / 10 µm

WARNING

Do not exceed 100 Lt/min. If exceeded hydraulic motor may be damaged.

WARNING

The relief valve (ref.4 pict.10) must be set so the pressure supplied to the winch doesn't exceed the pressure rating of the winch. If the pressure or flows exceeds those rated for the winch, it could cause damage to the winch, to the wire rope or damage to property, personal injury or death.

IMPORTANT

Hydraulic pressure or flows lowest than those rated for the winch will result in lower line pull or lower line speed.

WARNING

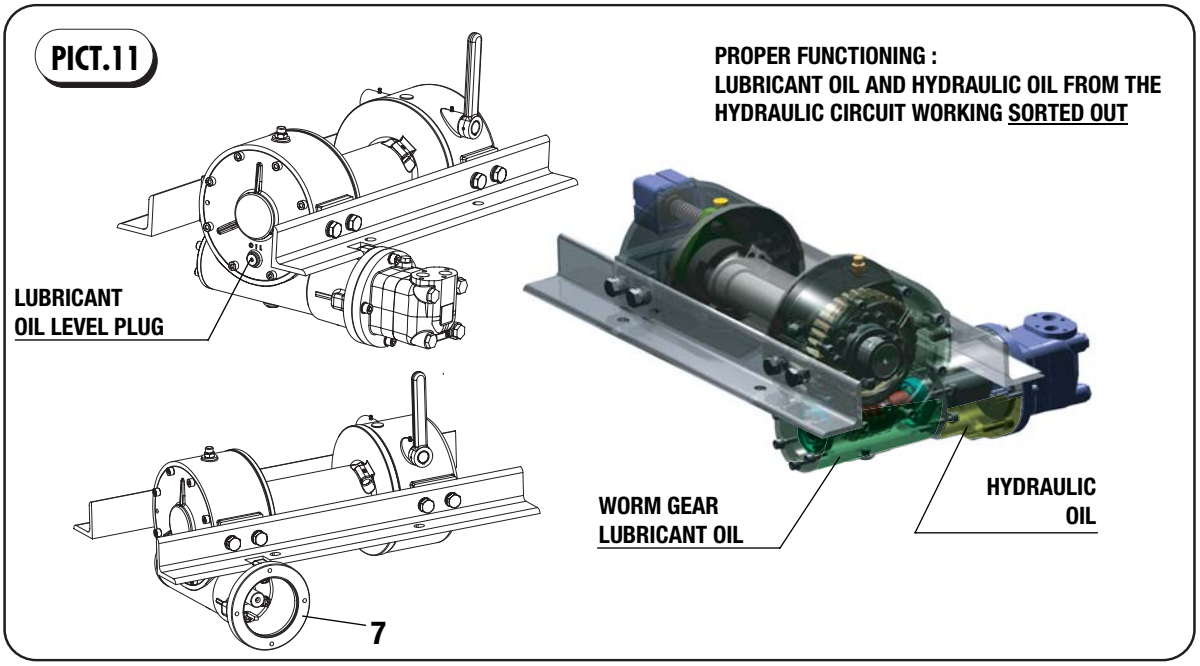
The hydraulic orbital motor mounted on model MH-MHS needs necessarily a drain line directly to the oil reservoir. In case of missed or wrong drainage line cause immediately, at the first winch start, the hydraulic motor adapter oil seals damaging and in some occasion could crack the hydraulic motor adapter.

If the hydraulic circuit has been designed as requested the hydraulic oil comes out from the hydraulic orbital motor shaft, runs in the hydraulic motor adapter (7) pict.11 and comes back in oil reservoir ref.5 pict.10 through drainage line (C) pict.11. If the hydraulic circuit has been designed as requested the winch works with the lubricant oil at the level and the hydraulic oil separeted as shown in pict.11.

WARNING

Lubricant oil winch and hydraulic oil will never be mixed.

PICT.11



In case of missed or wrong drainage line, oil seals (8) pict.12 fitted onto the hydraulic motor adapter (7) pict.12 could be damaged by excessive hydraulic oil pressure that without having the opportunity to be discharged through the drainage line will damage oil seal pict.12 or if oil seals will offer a good resistance hydraulic motor adapter (7) could be damaged too, his will determine an oil leakage from the hydraulic motor adapter body as shown in pict.12. In this case hydraulic oil will come in to the gear housing. The gear housing will be completely filled up by hydraulic oil who will come out through the breather plug (9).

WARNING

Do not operate with winch gear housing completely filled up with hydraulic oil. Hydraulic oil cannot lubricate worm gear. Worm gear could be easily damaged

WARNING

Winch control devices should be positioned for safe operation of the winch without hesitation or lost of time.

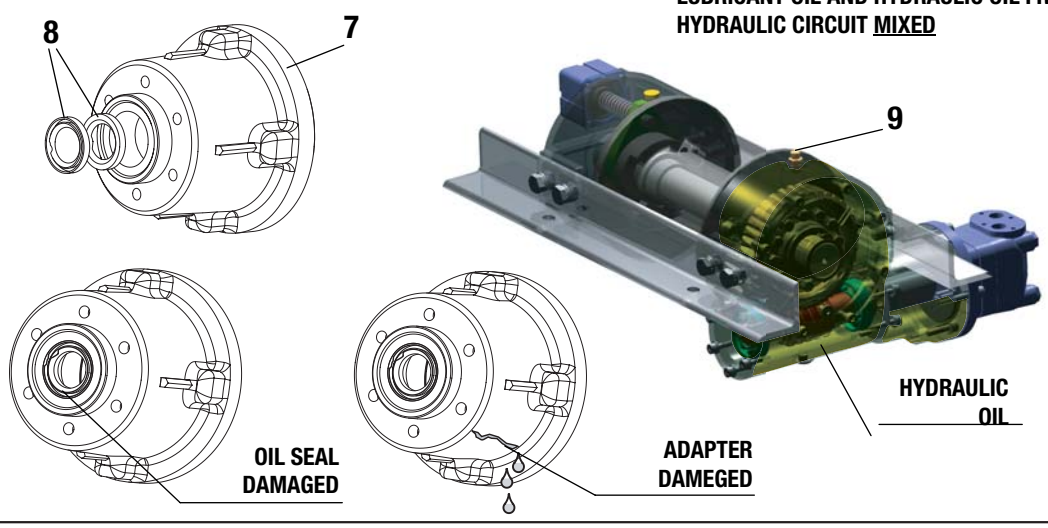
IMPORTANT

Winch control devices are at exclusive charge of the installer, who will also take care to place all decals, to indicate the different winch function to avoid any misunderstanding to the winch operator while winching.

OIL TYPES: Mineral hydraulic oils are recommended with anti-wear additives, type HLP [DIN 51524 (part.2)] or HM [ISO 6743/4]. The use of different oils, hydraulic motor company must be contacted.

TEMPERATURE: When selecting hydraulic oils , it is very important consider the operating temperature of the hydraulic system. Oil temperature should lie between +30°C [+85°F] ed i +60°C [+140°F]. As a general rule, oil life is halved for each +8°C [+15°F] its temperature exceeds 60°C [+140°].

PICT.12

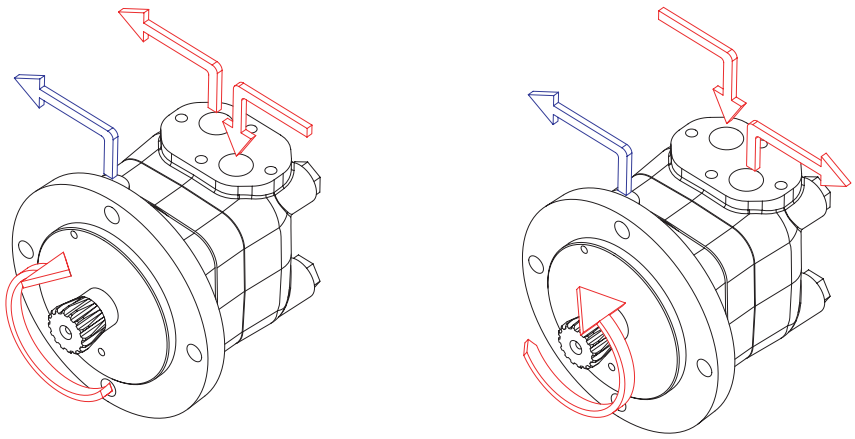


VISCOSITY: The viscosity of the oil should lie between 20 mm²/S and 75 mm²/S [100 e 370 SUS] when the operating temperature of the system has become stabilized. We recommend the use of an oil type having a viscosity of 35 mm²/S [165 SUS].

FILTERING: It is necessary to keep the level of oil contamination at an acceptable level to ensure problem-free operation. To maintain a correct level of cleaning is necessary a return filter of 40 µm absolute or 25 µm nominal. In very dirty environments, in complex systems, the recommended filtration is 20 µm absolute or 10 µm nominal. In any case should refer to the vehicle hydraulic system designer recommendation where the winch will be mounted, also about maintenance.

2.6 HYDRAULIC MOTOR LINKAGE

PICT.13



According to the orbital hydraulic motor plumbing, its shaft will turns in clockwise or counter clockwise, that's will determine a different winch drum rotation (pict.13).

Winches model MH-MHS are equipped with a worm gear drive train, who doesn't have pre-determined and obligatory drum pulling direction, who can be set in clockwise or counter clockwise direction.

NOTE

If the winch is equipped with accessories such as : Heavy-duty roller Fairlead and Cable tensioner, these are fitted, without any indication in the winch order, as shown in this instruction maintenance manual.

2.7 AIR-OPERATED FREESPOOL LINKAGE

The winches mod. MH-MHS can be equipped (on request) with air clutch shifter for drum freespooling DUAL ACTION. **The pneumatic system works if air system is available on vehicle only.**

Connect the air cylinder ports size G 1/8 as shown (ref. E pict.14) to the lever valve (see lay out pict.14a).

HOW IT WORKS:

Air flow through (X) port **disengages** the drum.

Air flow through (Y) port within spring returns **engages** the drum.

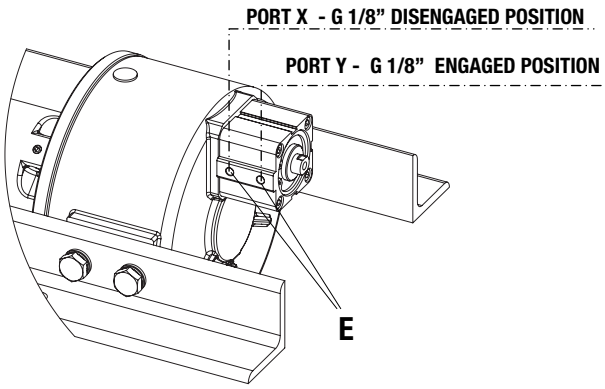
IMPORTANT

For efficient operation of air-cylinder clutch shifter , utilize air pressure filtered and dried. It is important to keep moisture from entering the winch. Moisture could cause corrosion. If temperature fall down below 0°, moisture could freeze and render the component inoperable. System works at the minimum pressure 6 bar. Pressure must not exceed 10 bar. The pneumatic system can works with temperature between –20°C and + 80°C .

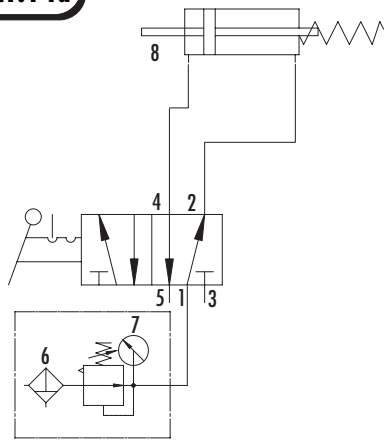
WARNING

Not utilize the proper air filters, could damage the pneumatic clutch, and compromise its function.

PICT.14



PICT.14a



NOTE
The dual action pneumatic lever valve and filter shown (see pict.12a), are not included in the winch standard equipment.

1. In let air pressure G 1/8”
2. Out let G 1/8”
3. Exhaust G 1/8”
4. Out let G 1/8”
5. Exhaust G 1/8”
6. Filter (50 µm)
7. Pressure regulator (min.6 bar max.10 bar)
8. Air cylinder for drum free spooling

2.8 CABLE INSTALLATION EN 14492-1

In the choice of cable to be fitted on drum for first time or to replace the old one, follow what is recommended by EN 14492-1:

- Cable breaking load double to winch max. rated capacity.
- Cable diameter equal to VIME recommended and according to EN 14492-1.

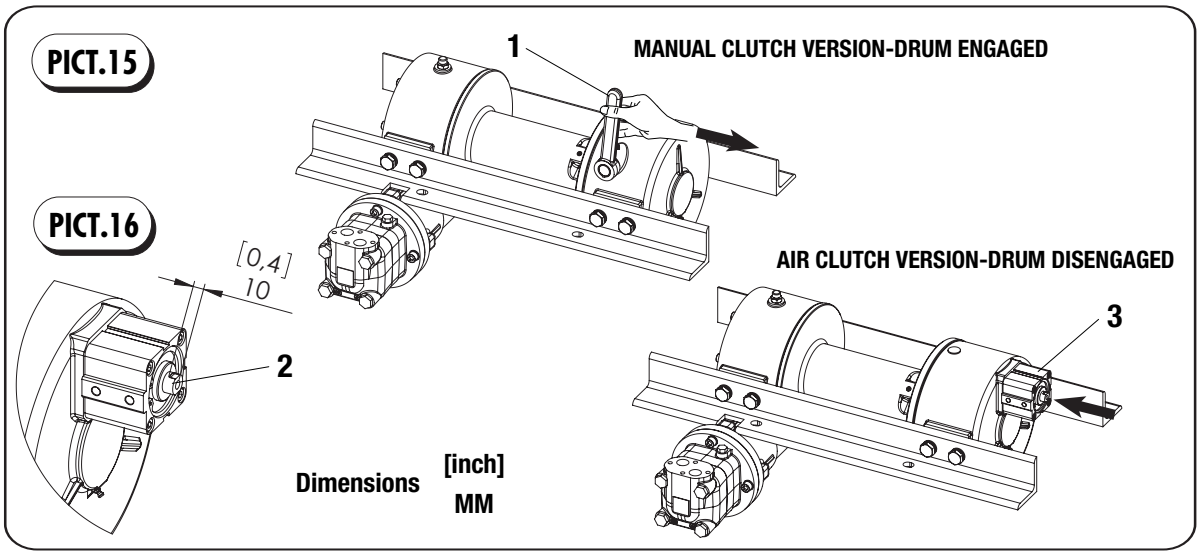
Cable anchor on drum has been designed EN 14492-1 compliant.

WARNING

Recommended wire rope min. tensile strength 2160 N/mm². Wire rope minimum breaking load must be at least double of winch max. pulling capacity.

WARNING

VIME has no responsibility for damages to the winch, to the rope or for physical injury to persons, animals or property damages given by unqualified cable use.



1. Determine the drum rotation. Worm gear winch has not a previous predetermined spooling direction of cable.
2. Check clutch be fully engaged, by inspecting:

MANUAL CLUTCH VERSION

The lever (1) (pict.15) must be in external position, if not pull out fully the lever.

AIR CLUTCH VERSION

Air-cylinder shaft (2) must be in position shown (pict.16). Differently operate the air-cylinder to engage clutch (chapter 3.1, page 30-31) while running slowly the winch drum.

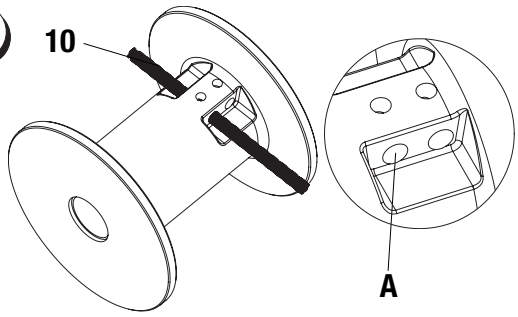
3. Unwind cable by rolling it out along the ground to prevent kinking.
4. If the end of cable opposite hook has not been machined, wrap end of cable opposite hook with plastic or similar tape to prevent fraying.

Follow steps indicated.

STEP 1

Insert the end of the rope (10) opposite the hook, into proper slot (A) as shown in pict.17.

PICT.17



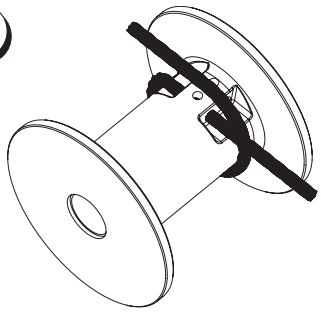
DANGEROUS

When winching is obligatory wear working gloves.

STEP 2

By bringing the end of rope (10) opposite to hook, wrap wire rope around drum barrel as shown in pict.18.

PICT.18



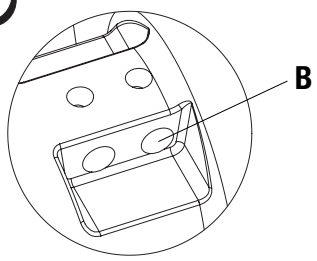
DANGEROUS

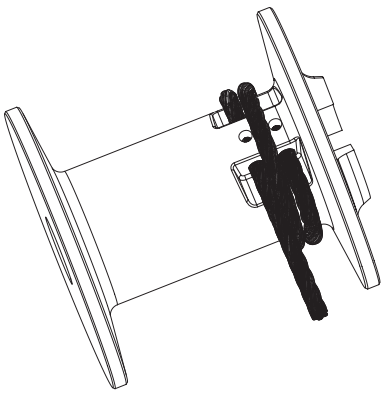
In rope winding be careful especially when hands are closed to drum and roller fairlead.

STEP 3

The end of rope (10) opposite to hook, must be insert in the second slot (B) as shown in pict.19.

PICT.19

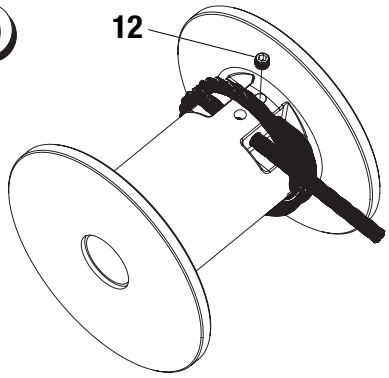




STEP 4

Thread set screw (12) into threaded hole to secure the end rope (10) opposite to hook as shown in pict.20.

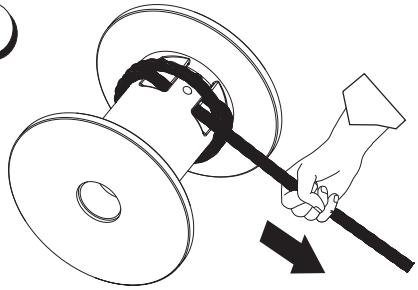
PICT.20



STEP 5

Manually pull the rope out as shown in pict.21 till rope will wrap onto the drum barrel.

PICT.21



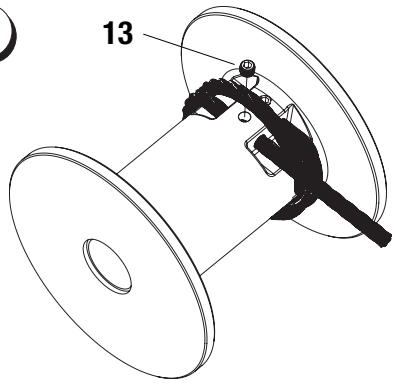
WARNING

When winching is obligatory wear working gloves.

STEP 6

By keeping rope tensioned as shown in pict.21 tighten safety set screw (13) as shown in pict.22.

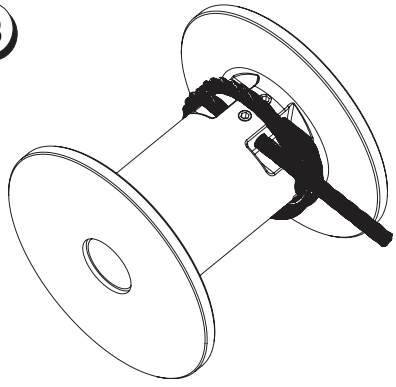
PICT.22



STEP 7

After having tightened safety set screw, start winding the wire rope.

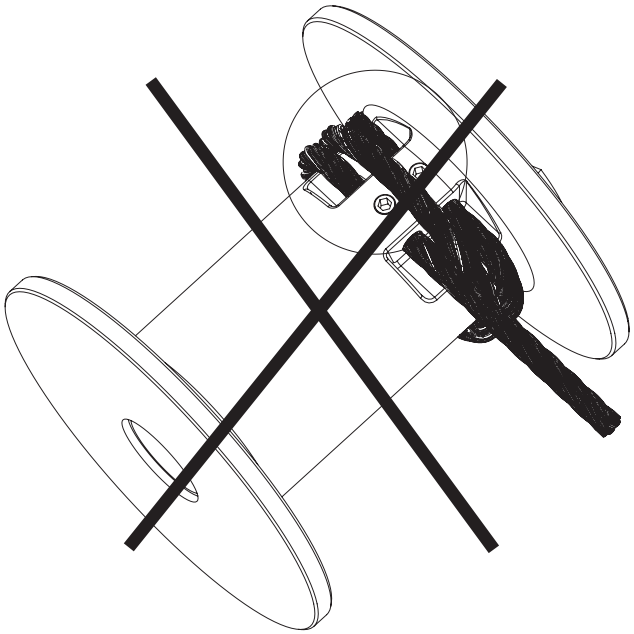
PICT.23



ROPE NOT PROPERLY MOUNTED

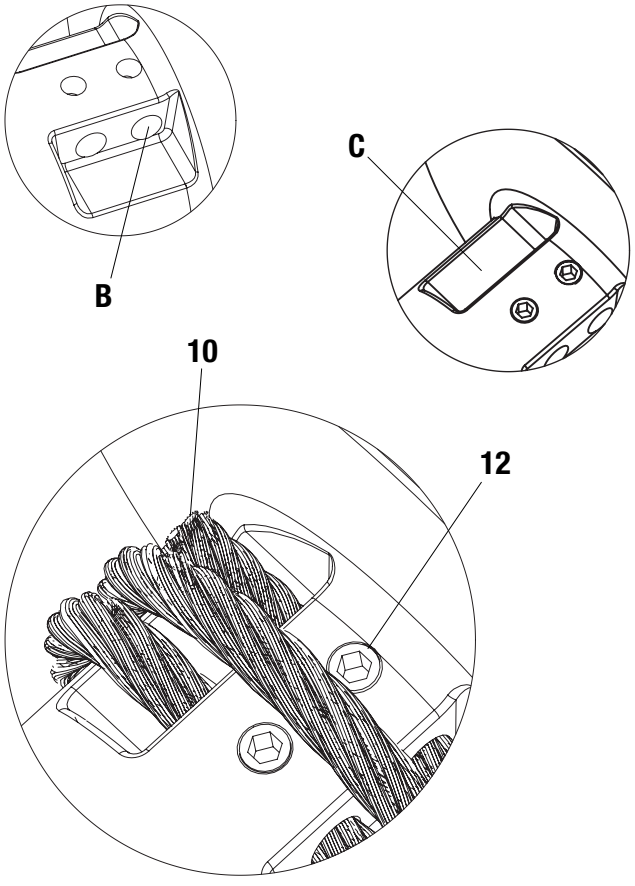
While mounting the end rope (10) opposite to hook, throughout (B) by using set screw (12), take care do not allow wire rope to extend past seat (C) of drum as shown in pict.24.

PICT.24



DANGEROUS

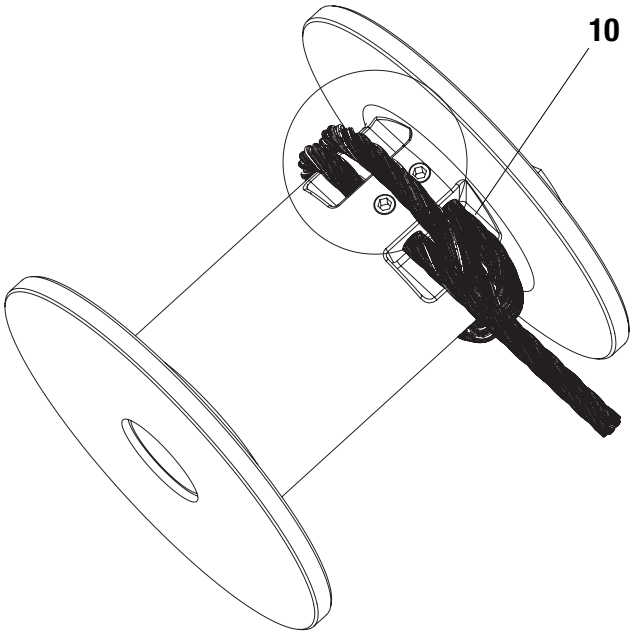
Never try to enlarge drum rope slots. VIME cannot be held responsible of failure to the drum, wire rope caused by this unauthorized intervention.



CORRECT WIRE ROPE MOUNTING

While mounting the end rope (10) opposite to hook, through hole (B) by using set screw (12), take care do not allow cable to extend past seat (C) of drum, as shown in pict.24.

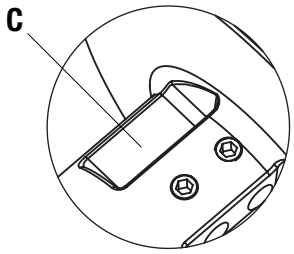
FIG.25



DANGEROUS

In case of installing of a wire rope with end opposite to hook cone tapered, is necessary to use the whole drum seat depth to allow set screw (12) clamp onto the wire rope and not onto the cone tapered.

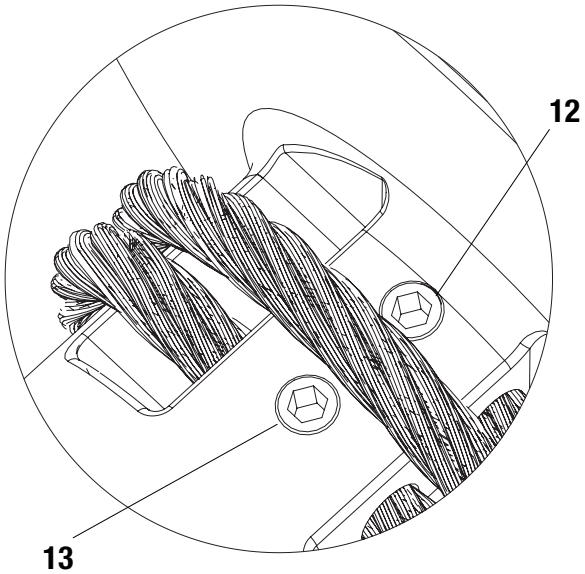
5. Runs winch in the reel in direction. Keeping tension end of cable, spool the cable onto the cable drum taking care to form neatly wrapped layers.



DANGEROUS

When winding all cable onto the cable drum keeping tension on it by hand, when the end of cable is near to the drum, stop winch, disengage drum (chapter 3.1, page 29, pict.26). When the drum is disengaged, turn the drum by hands till the cable is completely winded. Take great care, when hands approach to the drum and roller fairlead.

6. Winch is ready.

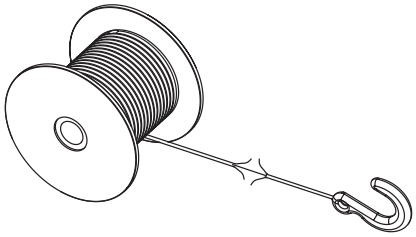


SECTION 3
OPERATION

3.1 OPERATION

DANGEROUS

Before starting winch check cable conditions, if cable becomes frayed with broken strands, replace immediately as described on chapter 2.8.



DANGEROUS

When winching is obligatory wear working gloves.

WARNING

Before operating check oil level and add oil, if necessary as shown in chapter 5.1.1.

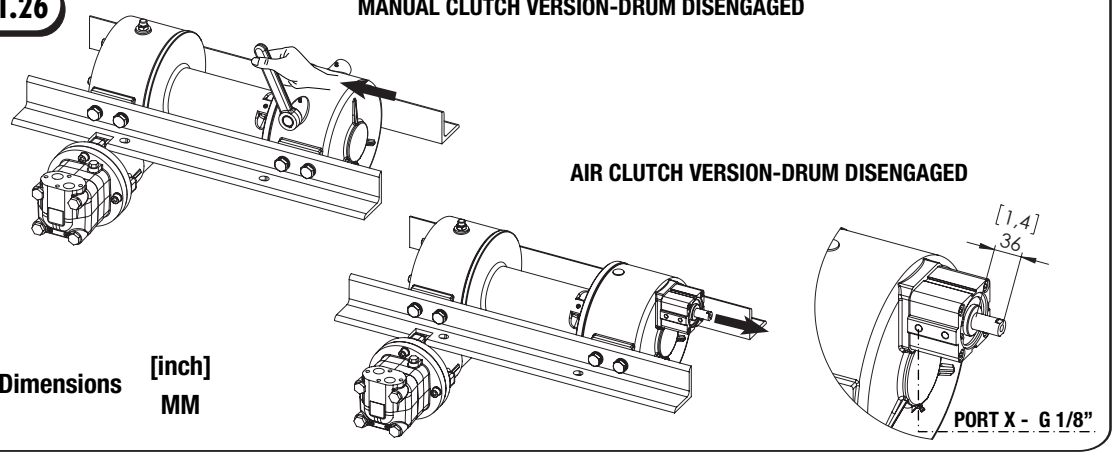
WARNING

Before start winching, check conditions of manual or air clutch system for drum freespooling.

NOTE

A warm up procedure is recommended at each start up and is essential at ambient temperatures below +40°F (4°C). The prime mover should be run at its lowest recommended RPM, with manual or air clutch shifter disengaged, sufficient time to warm up the system. The winch should be operated at low speeds, forward and reverse, several times to circulate gear lubricant through the worm gear.

PICT.26



A) For hooking onto the load rapidly:

1. Check drum clutch be fully disengaged:

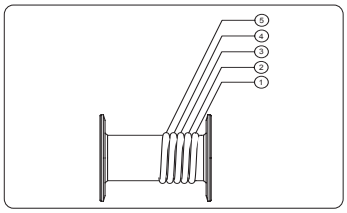
a. **VERSION WITH MANUAL CLUTCH SHIFTER:** checking the lever being fully in, if not pull the lever fully in as shown (pict.26).

b. **VERSION WITH AIR-CYLINDER CLUTCH SHIFTER:** checking the air-cylinder shaft being fully out (pict.26), if not act air lever valve, air flow through X port G1/8" (pict.26) disengages drum.

2. Now freespool by manually pulling out enough wire rope for the winching operation, hook the load in a point who can resist to the traction.

DANGEROUS

A minimum of 5 wraps of cable around drum barrel is recommended.



B) To pull the load:

WARNING

Do not exceed maximum line pull ratings.

1. Engage the drum :

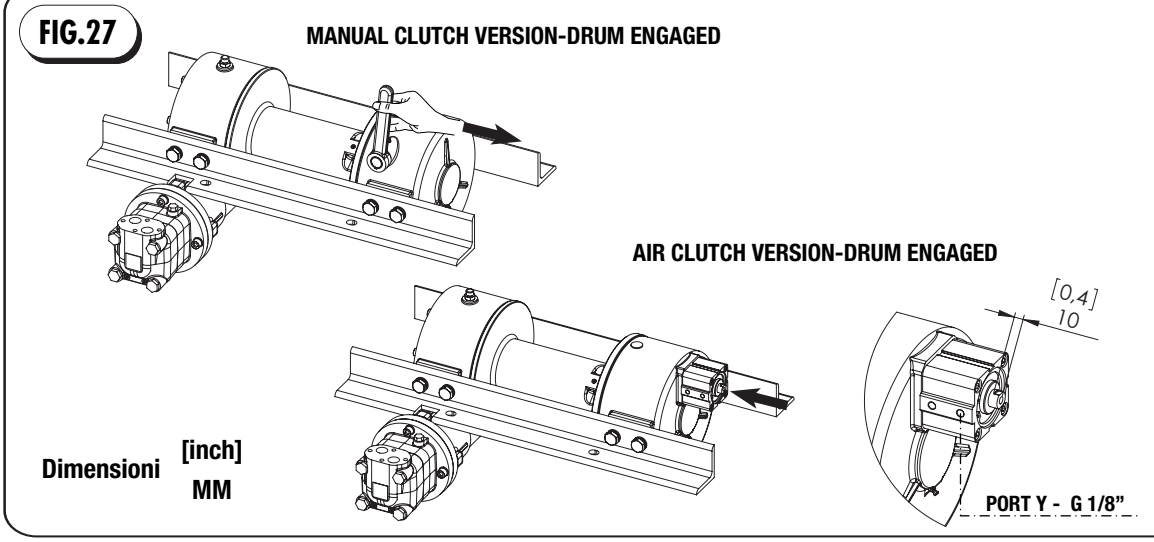
a. **VERSION WITH MANUAL CLUTCH SHIFTER:** checking the lever being in external position, if not pull the lever fully out as shown(pict.26).

WARNING

Check the action of the sliding clutch, making sure it is fully engaging with cable drum. Clutch is fully engaged when jaw clutch perfectly match jaw drum. To let jaws match together it could be necessary runs drum manually or by spooling out the cable till engaging or powering drum (short intermittence) in winding or unwinding direction. All these operations must be ran with no load.

b. **VERSION WITH AIR-CYLINDER CLUTCH SHIFTER:** act air lever valve, air flow through Y port G1/8" (pict.27) engages drum.

FIG.27



Checking the air-cylinder shaft (1) being in as shown (pict.27).

WARNING

Check the action of the sliding clutch, making sure it is fully engaging with cable drum. Clutch is fully engaged when jaw clutch perfectly match jaw drum. To let jaws match together it could be necessary runs drum manually or by spooling out the cable till engaging or powering drum (short intermittence) in winding or unwinding direction. All these operations must be ran with no load.

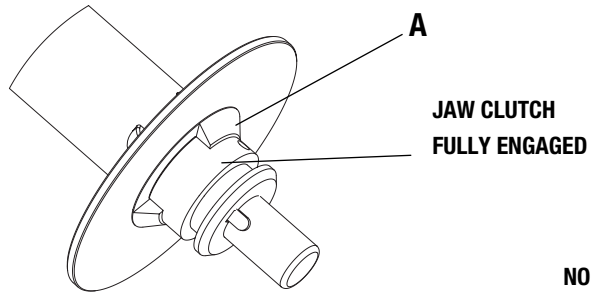
DANGEROUS

If clutch has not been fully engaged (pict.29), in winching operation while is pulling a load, can cause the suddenly drum disengagement and as a consequence the load drifts.

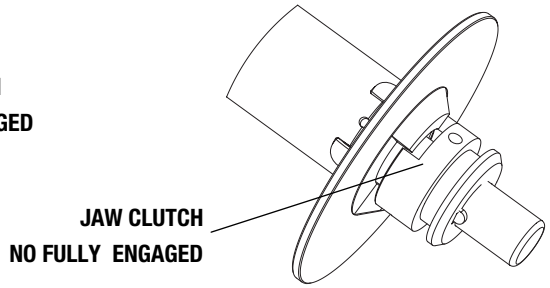
WARNING

Check clutch must be fully engaged as shown (pict.28).

PICT.28



PICT.29



NOTE

Illustrations shown (pict.28-29) are just as demonstration. This side of drum is fully hidden when winch is in use.

WARNING

Not proper extended clutch operation (manual or air system), even if doesn't cause a load drifts in a short period, could cause edge wear of sliding jaw clutch an drum clutch (ref.A), till moment where would be impossible engage drum anymore, or will be not capable to hold the load.

IMPORTANT

To insure an efficient drum clutch operation (air-clutch version) a proper connection to the vehicle air circuit must be provided by planning filters and pressure regulator as well as their own maintenance (chapter 5.1.1)..

IMPORTANT

Maintenance exigency increase according to the winch working conditions and in case of its occasional use as well.

When pulling the clutch lever(1) (pict.30) to engage or disengage winch drum, the ball and spring lock system (Pos.1 e Pos.2 pict.31) warns with a snap that has took place.

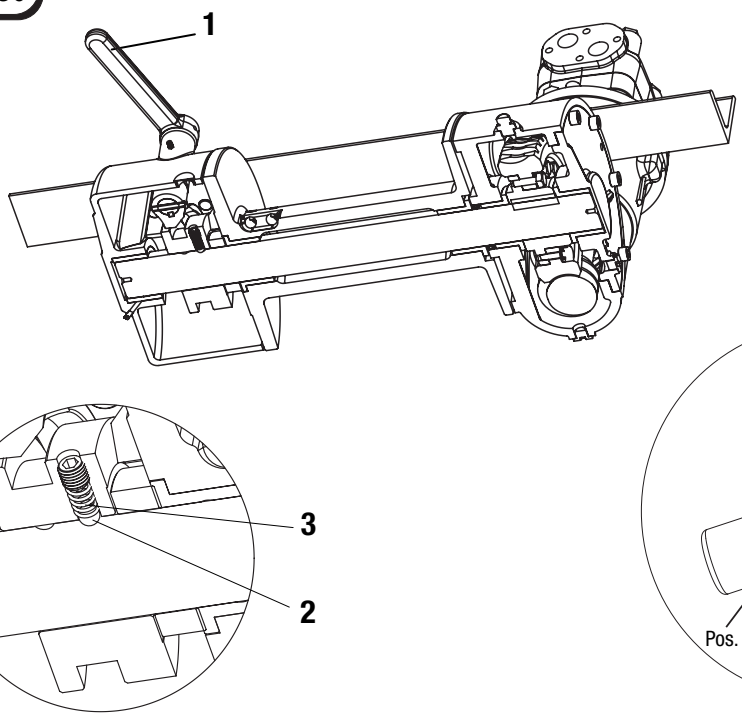
WARNING

A missed snap warns drum has not been fully engaged or disengaged

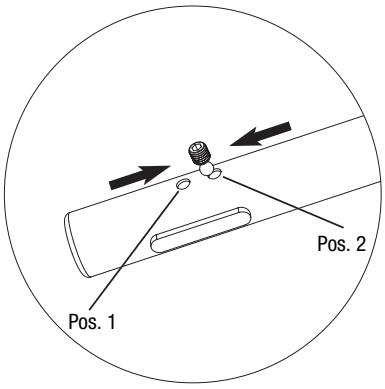
DANGEROUS

Drum not fully engaged or disengaged gives problem described on pict.29, page 31.

PICT.30



PICT.31



2. Act hydraulic control valve or push the radio control button for winding rope onto the winch drum.

WARNING

Winch operator start pulling slowly and only after having keep tensioned cable and verified cable/hook has been securely fastened to the vehicle/load.

DANGEROUS

The suddenly under load wire rope breaking or any yielding who involve an hook release, causing a dangerous rope stroke. Winch operator or other persons have to keep a safe distance from the working length of the wire rope.

WARNING

In car carrier applications after pulling vehicle on carrier, be sure to secure vehicle to carrier bed. Do not maintain load on winch cable while transporting vehicle, do not use winch as a tie down (pict.32)

DANGEROUS

Do not disengage clutch under load.

DANGEROUS

Never attempt to pull more than the winch is rated for.

DANGEROUS

Never try to guide cable while winching.

DANGEROUS

Do not move your vehicle to assist the winch in pulling a load. Winch failure, may cause serious injuries

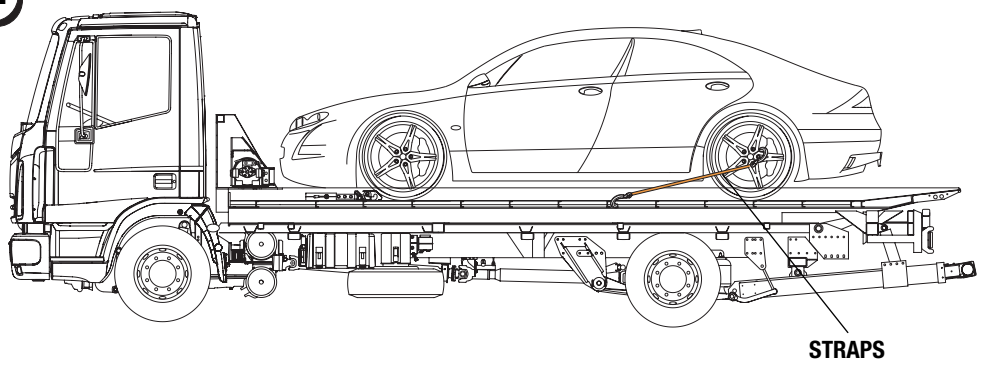
DANGEROUS

Never try to attempt lateral pullings, in reference to the centreline of the vehicle where the winch is installed (pict. 33). Winch and vehicle where the winch is installed could be damaged, and result in serious injury.

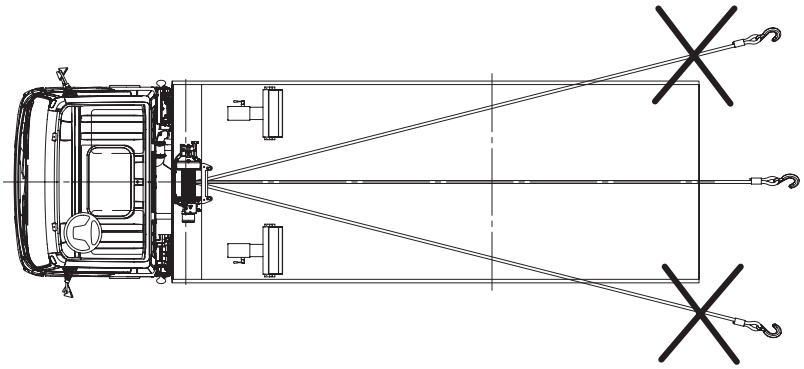
WARNING

Do not use winch to lift, support or otherwise transport personnel.

PICT.32



PICT.33



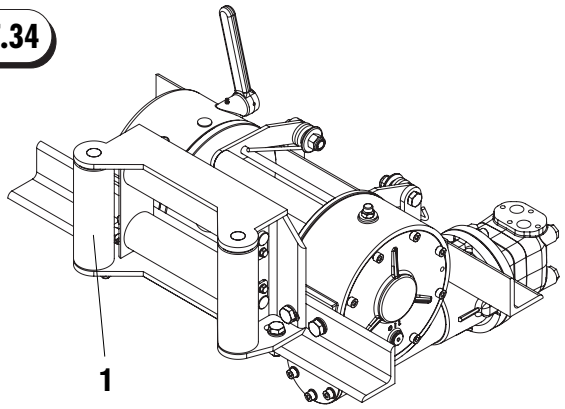
SEZIONE 4
ACCESSORI

4.1 ACCESSORIES

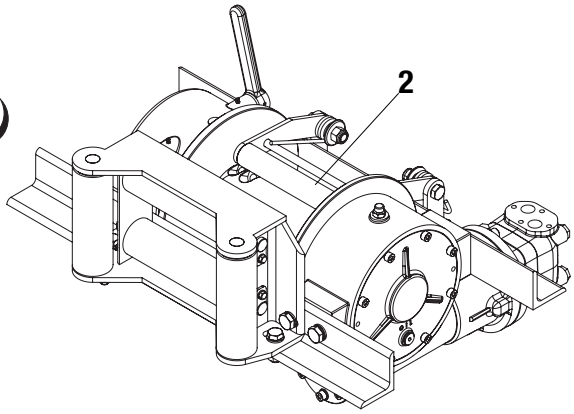
MH-MHS winches have been designed to be equipped with several accessories such as :

- Heavy-duty roller fairlead (ref.1 pict.34)
- Cable tensioner (ref.2 pict.35)

PICT.34



PICT.35



4.1.1 ROLLER FAIRLEAD

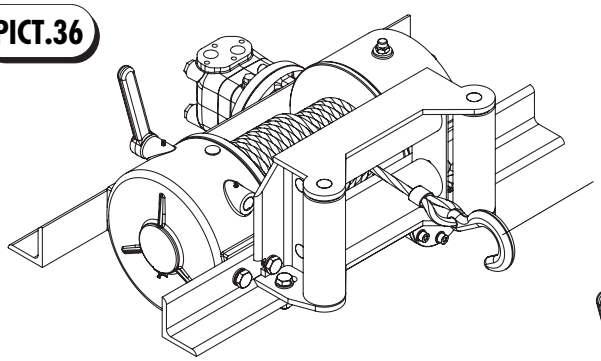
Roller fairlead is made up by 2 horizontal rollers and 2 vertical rollers, used for lateral pullings to avoid cable damages to the vehicle where the winch is installed. For MH-MHS winches is available Heavy-duty zinc-plated roller fairlead with hardened steel rollers.

4.1.2 CABLE TENSIONER

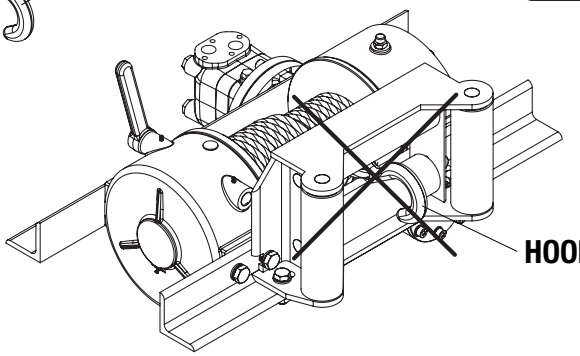
Cable tensioner is used to keep cable tightened on the drum, while the winch is in freespool mode. Cable tensioner does not insure that the cable will wind onto the drum in orderly manner.

4.2 RECOMMENDATIONS FOR USE

PICT.36



PICT.37



4.2.1 ROLLER FAIRLEAD

IMPORTANT

The use of roller fairlead does not insure that the cable will wind onto the drum in an orderly manner.

IMPORTANT

The proper fleet angle must be maintained for the cable to wind onto the drum in an orderly manner as shown in chapter 2.3.

DANGEROUS

Stop reel-in of cable before hook enters fairlead rollers, as shown in pict.36-37. Failure to do so, may cause damage or breakage to the rope, winch, vehicle and serious injuries.

DANGEROUS

Do not put hands or feet near rotating parts or moving wire rope. Wire rope under tension can cause serious personal injury. Before operator power a winch, he is required to check that the area around the winch and load being hauled is clear.

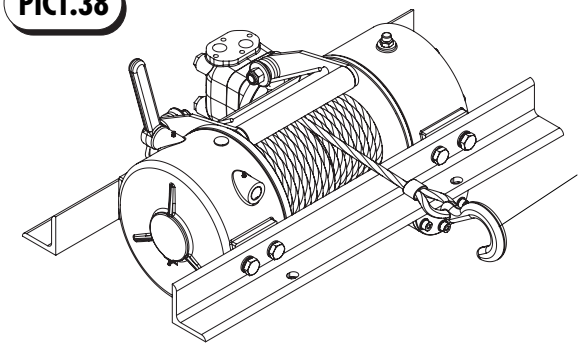
DANGEROUS

Never try to guide cable while winching.

IMPORTANT

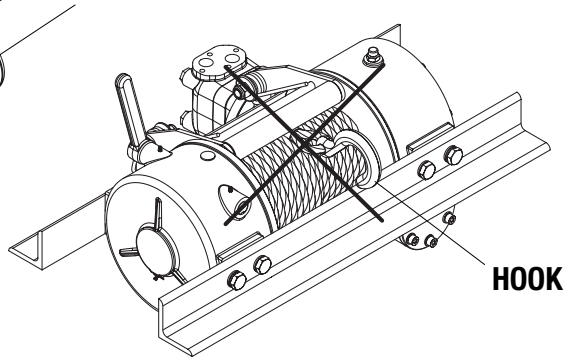
In order that accessories such as roller fairlead and cable tensioner, can work properly a maintenance is recommended , as shown in chapter 5.1.1.

PICT.38



HOOK

PICT.39



HOOK

4.2.2 CABLE TENSIONER

IMPORTANT

The use of cable tensioner does not insure that the cable will wind onto the drum in an orderly manner.

IMPORTANT

The proper fleet angle must be maintained for the cable to wind onto the drum in an orderly manner as shown in chapter 2.3.

DANGEROUS

Stop reel-in of cable before hook enters rope tensioner roller, as shown in pict.38-39. Failure to do so, may cause damage or breakage to the rope, winch, vehicle and serious injuries.

DANGEROUS

Do not put hands or feet near rotating parts or moving wire rope. Wire rope under tension can cause serious personal injury. Before operator power a winch, he is required to check that the area around the winch and load being hauled is clear.

DANGEROUS

Never try to guide cable while winching.

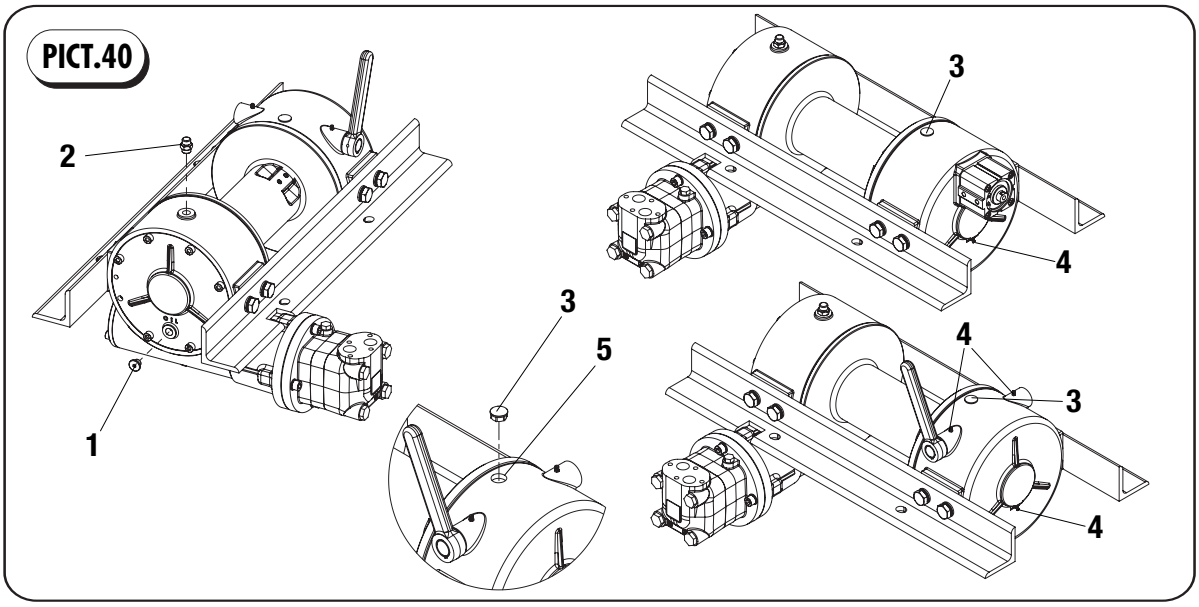
IMPORTANT

In order that accessories such as roller fairlead and cable tensioner, can work properly a maintenance is recommended , as shown in chapter 5.1.1.

SECTION 5
MAINTENANCE

5.1 MAINTENANCE

Winches mod. MH-MHS are designed to reduce maintenance to wire rope and gear housing oil level only.

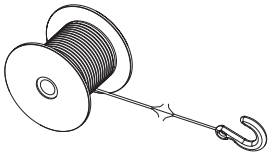


5.1.1 MONTHLY MAINTENANCE

Technical staff required :
Technician or user

Procedure:

1. Inspect the cable for damage and lubricate frequently with viscous oils or light grease with additive adhesive with graphite or bisulfure molybdenum. **If cable becomes frayed with broken strands, replace immediately by following procedure indicated on chapter 2.8.**



2. Worm and gear are bathed in oil. Keep oil to level hole.

3. To check oil level: remove oil level plug (1) and check oil level. Oil level should be kept up to oil level hole. If oil level is below level hole, remove breather plug (2) and add oil **ESSO Spartan EP320** or **IP Mellana 320.** Tightening plugs.

IMPORTANT

Keep lubricated drum clutch through inspection hole (3). For manual or air clutch version, lubricate drum clutch through grease fitting (4). Never utilise high pressure grease system.

WARNING

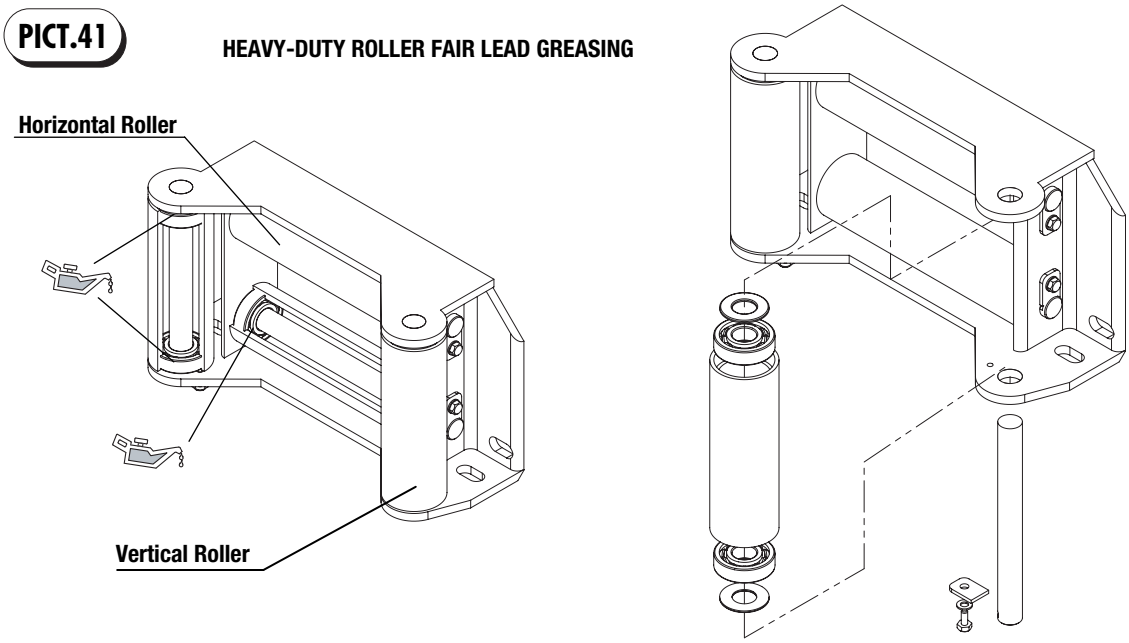
Remove the plastic plug (ref.5 pict.40) and inspect the clutch shifter (ref.2 part list chapter 7.2-7.4, pages 44-46) check for damage or excessive wear. Observe the jaws on the clutch, checking for rounding of the driving faces. If rounding has occurred it should be replaced.

WARNING

Periodically inspect rope mounting setscrews and tighten if necessary (chapter 2.8 page 28).

MH-MHS winches can be equipped with heavy duty roller fairlead and cable tensioner.

PICT.41 HEAVY-DUTY ROLLER FAIR LEAD GREASING



4. The Roller fairlead rollers must roll free to let wire rope slide perfectly. Elements such as: salt, water, oxidation and a bad maintenance can cause the rollers locking, and excessive wire rope wear. The Roller fairlead rollers bad operation, can cause their own rapid wear. We recommend to keep rollers lubricated, with medium dense oil, between axe and roller as shown on pict.41.

IMPORTANT

Fairlead rollers are zinc plated. Treatment with time will be removed by rope sliding.

IMPORTANT

Fairlead rollers sliding on wire rope, when show an excessive wear must be replaced.

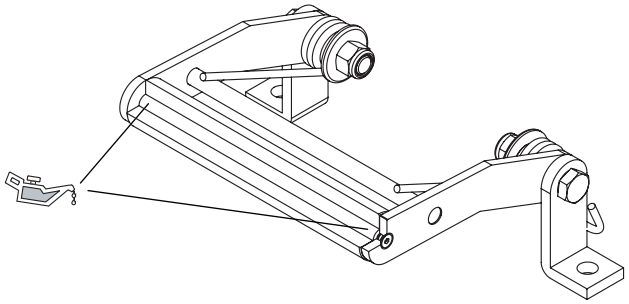
WARNING

A roller excessively worn , particularly if it has deep stripes, could damage the wire rope.

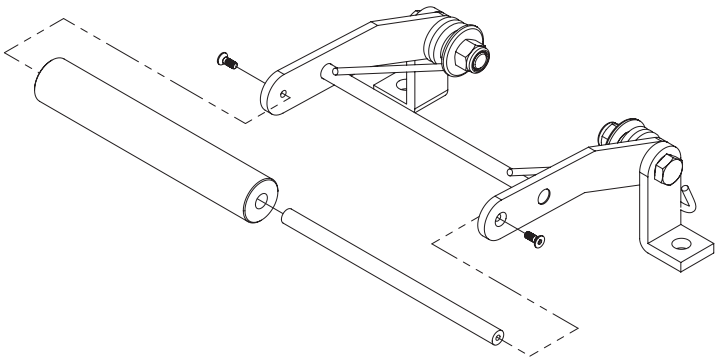
5. Cable tensioner roller is made in copolymer acetate. This material reduces maintenance. In very dirty environments, we recommend to keep maintenance and roller lubricated, with medium dense oil (pict.42). In case of excessive locking, cable tensioner roller can be disassembled as shown on pict.43.

PICT.42

CABLE TENSIONER GREASING



PICT.43



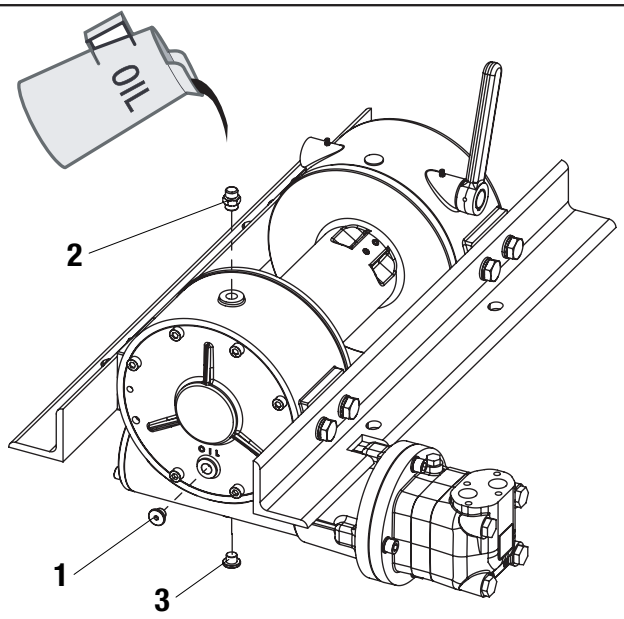
IMPORTANT

Cable tensioner roller sliding on wire rope, when shows an excessive wear must be replaced.

WARNING

A roller excessively worn , particularly if it has deep stripes, could damage the wire rope.

PICT.44



5.1.2 ANNUAL MAINTENANCE

Technical staff required :
Technician or user

Procedure:

At least once a year, it is necessary inspect oil level. To inspect oil level follow instruction as indicated in chapter 5.1.1 step 3. To fully replace the oil do as follow :

1. Remove fill/breather plug (2) and oil level plug (1).

2. Drain oil from winch by removing drain plug (3) taking care to put the oil drained in a container (approx. 2 Lt. capacity).

3. Tighten drain plug (3) and fill up worm gear housing with new oil through oil hole (2) till reach oil level hole (1) (see table beside for oil quantity).

4. Tighten oil level plug (1) and plug (2).

Model	Q.ty
MH	1,2 Lt.
MHS	1,2 Lt.

IMPORTANT

To avoid pollution, the oil drained from the winch, must be carried off in compliance with regulation.

WARNING

Inspect mounting capscrews and tighten if necessary.

SECTION 6
TROUBLE SHOOTING GUIDE

6.1 TROUBLE SHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
Drum will not rotate at no load in the free spooling position.	- The winch is misaligned.	- Check winch mounting, Section 2 pages 15-16-17-18.
Drum will not rotate under load.	- Load greater than rated capacity of winch.	- Check technical data on pages 8-9-11.
	- Low hydraulic system pressure.	- Check hydraulic system pressure and winch performance charts on pages 8-9-11.
Winch runs too slow.	- Low hydraulic system pressure.	- Check hydraulic system pressure and winch performance charts on pages 8-9-11.
	- Motor worn out.	- Replace the motor rif.39 spare parts drawing 7.2-7.4 on pages 44-46.
	- The winch is misaligned.	- Check winch mounting, Section 2 pages 15-16-17-18.
Drum will not free spool.	- Clutch doesn't disengage.	- Check chapter 2.7 on page 23 and chapter. 3.1 on pages 29/33. - Check shaft rif.8 parts drawing 7.2-7.4 on pages 44-46 doesn't lock for a bad maintenance - Check if keys rif.36 parts drawing 7.2-7.4 on pages 44-46 are pulled out of shape by overload.
	- The winch is misaligned.	- Check winch mounting, Section 2 pages 15-16-17-18.
Lubricant oil leakage.	- Damaged oil seals, O-rings.	- Replace gaskets ref.52-53, oil seals ref.47-48, O-rings ref.40 parts drawing 7.2-7.4 on pages 44-46.
	- Oil plugs loosens.	- Tighten oil plugs, Section 5 chapter 5.1.1.
	- Excessive oil quantity in gear housing.	- Section 5, chapter 5.1.1-5.1.2.

TROUBLE SHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
Hydraulic oil leakage from Fill/ breather plug.	- Missed or wrong motor drainage line.	- Apply correctly motor drainage line, (chapter 2.5 pages 19/22) and replace oil seals motor adapter damaged (ref. 47 parts drawing 7.2-7.4 pages 44-46).
Hydraulic oil leakage from hydraulic motor adapter.	- Missed or wrong motor drainage line.	- Apply correctly motor drainage line, (chapter 2.5 pages 19/22) replace motor adapter and oil seals adapter damaged (ref. 47 parts drawing 7.2-7.4 pages 44-46).
Load drifts.	- Bronze Gear worn out	- Replace bronze gear ref.34 parts drawing 7.2-7.4 on pages 44-46.
	- Excessive heavy-duty operation	- Check performance charts on pages 8-9-11.
	- Drum clutch worn out	- Check drum clutch Section 3 on pages 29-33.
	- Drum shaft failure	- Replace shaft ref. 31 and keys ref.35-36 parts drawing 7.2-7.4 on pages 44-46.
Excessive noise.	- Hydraulic system flow too high.	- Check hydraulic system pressure and winch performance charts on pages 8-9-11.
	- Oil level too low.	- Check oil level, through oil level plug according instructions chapter 5.1.1 on page 37.
Cable birdnests when clutch is disengaged.	- Teflon discs worn out.	- Replace teflon discs and springs, ref.49 - 50 parts drawing 7.2-7.4 on pages 44-46.
	- Wire rope too hard.	- Replace wire rope. Mount a cable tensioner.

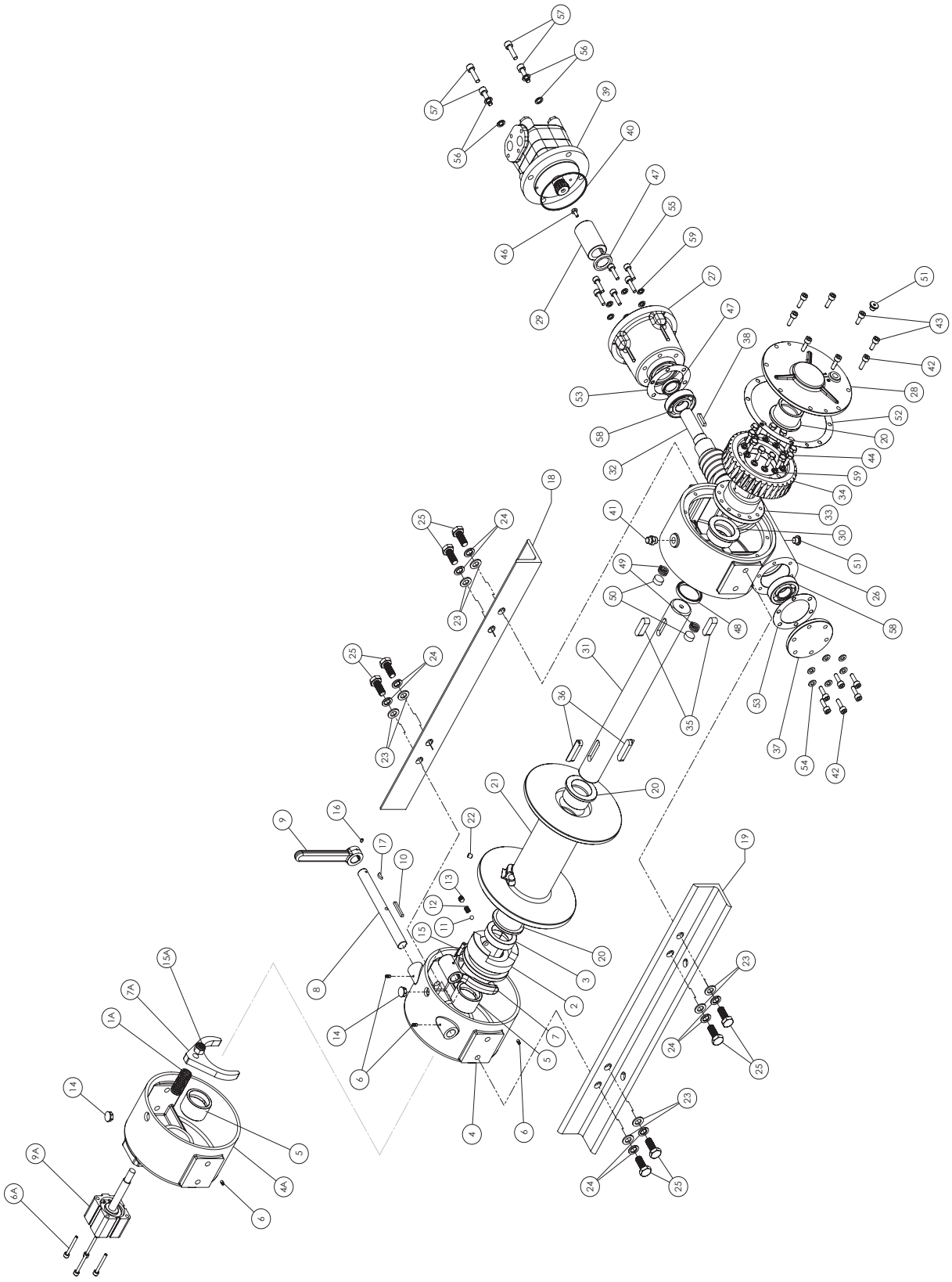
SECTION 7
PARTS LIST

7.1 MH 7000 - MH 7850 WINCH PARTS LIST

COD.	REF.	DESCRIPTION	Q.TY'
	2	CLUTCH	1
	3	THRUST WASHER	1
	4	MANUAL CLUTCH HOUSING	1
	5	BUSHING	1
	6	LUBRICATOR M6 UNI 7673	3
	7	CLUTCH FORK	1
	8	FORK SHAFT	1
	9	CLUTCH HAND LEVER	1
	10	SPLINE 6x6x50	1
	11	CLUTCH BALL	1
	12	CLUTCH SPRING	1
	13	CAPSCREW UNI 5923 M12x16	1
	14	TEFLON PLUG	1
	15	PIN UNI 6873 8x40	1
	16	CAPSCREW UNI 5927 M6x10	1
	17	SPLINE	1
	18	MOUNTING ANGLE MOTOR SIDE	1
	19	MOUNTING ANGLE	1
	20	BUSHING	3
	21	DRUM	1
	22	CAPSCREW UNI 5927 M10x12	2
	23	WASHER UNI 6592 D16	8
	24	LOCK WASHER UNI 9195B D16	8
	25	CAPSCREW UNI 5739 M16x40	8
	26	GEAR HOUSING	1
	27	ADAPTER	1
	28	GEAR HOUSING COVER	1
	29	MOTOR COUPLING	1
	30	BUSHING	1
	31	SHAFT	1
	32	WORM SCREW	1
	33	GEAR RING HOUSING	1
	34	GEAR RING Z=35	1
	35	KEY16x16	2

COD.	REF.	DESCRIPTION	Q.TY'
	36	KEY	2
	37	FLANGE	1
	38	KEY 8x7x40	1
	39	HYDRAULIC MOTOR OMTS_250	1
	40	MOTOR O-RING 125x3	1
	41	FILL/BREATHER PLUG 3/8" G	1
	42	CAPSCREW UNI 5931 M10x30	12
	43	CAPSCREW UNI 5931 M10x25	2
	44	CAPSCREW UNI 5739 M10x30	12
	46	CAPSCREW UNI 5739 M8x16	1
	47	OIL SEAL 32x50x7	2
	48	OIL SEAL 56x70x8	1
	49	TEFLON DISC SPRING	2
	50	TEFLON DISC	2
	51	OIL PLUG 3/8" G	2
	52	GEAR HOUSING COVER GASKET	1
	53	FLANGE GASKET	2
	54	WASHER UNI 6592 D10	6
	55	CAPSCREW UNI 5931 M10x35	6
	56	LOCK WASHER UNI 9195B D12	4
	57	CAPSCREW UNI 5931 M12x40	4
	58	BEARING 7307	2
	59	LOCK WEASHER UNI 9195B D10	18
	1A	AIR CLUTCH SPRING	1
	4A	AIR CLUTCH HOUSING	1
	5	BUSHING	1
	6	LUBRICATOR M6 UNI 7673	1
	6A	CAPSCREW UNI 5931 M8x80	4
	7A	FORK	1
	9A	AIR CYLINDER	1
	14	TEFLON PLUG	1
	15A	LOCK NUT UNI 7473 M16	1

7.2 MH 7000 - MH 7850 WINCH PARTS DRAWING

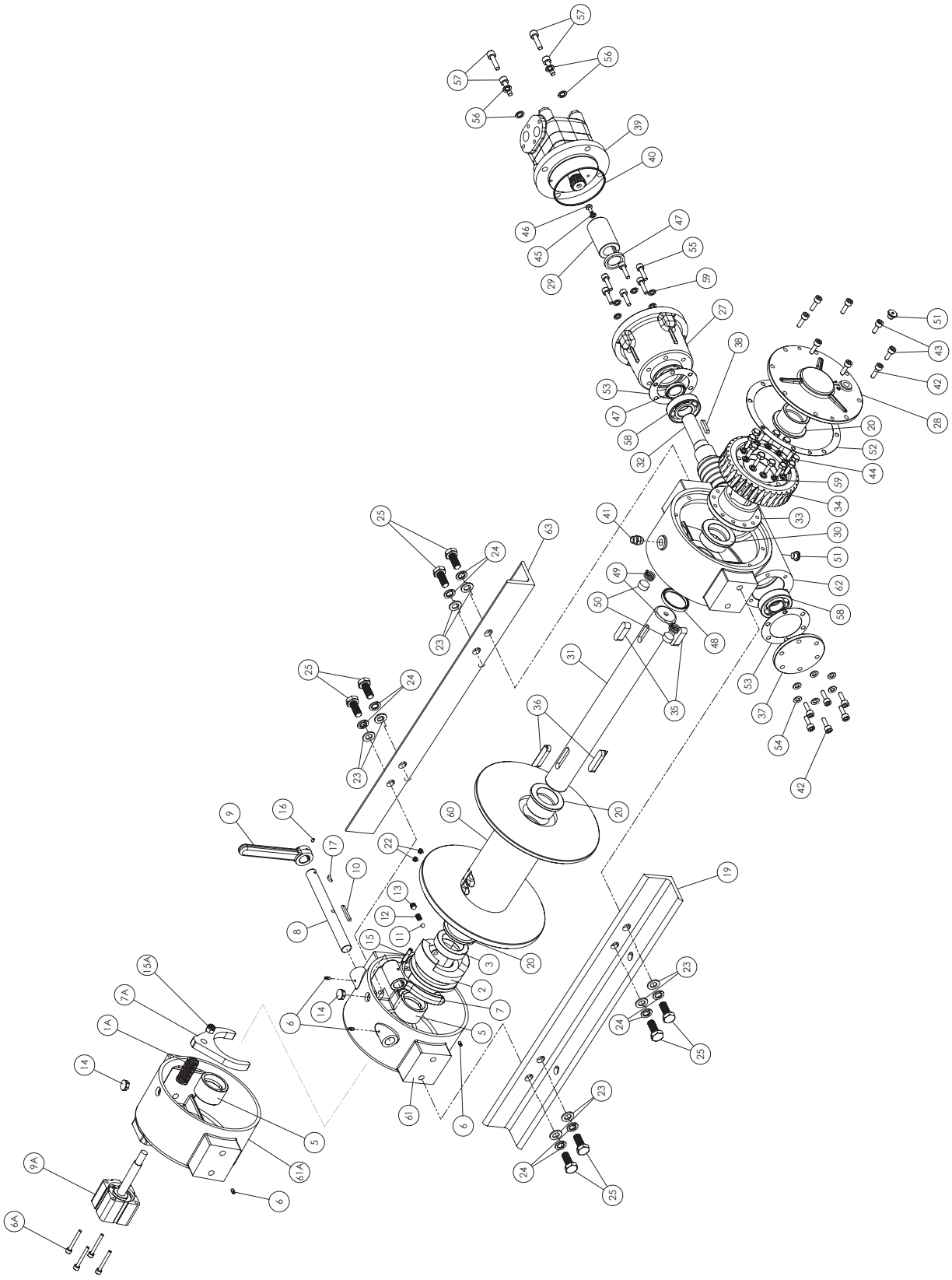


7.3 MHS 8000 WINCH PARTS LIST

COD.	REF.	DESCRIPTION	Q.TY'
	2	CLUTCH	1
	3	THRUST WASHER	1
	5	BUSHING	1
	6	LUBRICATOR M6 UNI 7673	3
	7	CLUTCH FORK	1
	8	FORK SHAFT	1
	9	CLUTCH HAND LEVER	1
	10	SPLINE 6x6x50	1
	11	CLUTCH BALL	1
	12	CLUTCH SPRING	1
	13	CAPSCREW UNI 5923 M12x16	1
	14	TEFLON PLUG	1
	15	PIN UNI 6873 8x40	1
	16	CAPSCREW UNI 5927 M6x10	1
	17	SPLINE	1
	19	MOUNTING ANGLE	1
	20	BUSHING	3
	22	CAPSCREW UNI 5927 M10x12	2
	23	WASHER UNI 6592 D16	8
	24	LOCK WASHER UNI 9195B D16	8
	25	CAPSCREW UNI 5739 M16x40	8
	27	ADAPTER	1
	28	GEAR HOUSING COVER	1
	29	MOTOR COUPLING	1
	30	BUSHING	1
	31	SHAFT	1
	32	WORM SCREW	1
	33	GEAR RING HOUSING	1
	34	GEAR RING Z=35	1
	35	KEY 16x16	2
	36	KEY	2
	37	FLANGE	1
	38	KEY 8x7x40	1
	39	HYDRAULIC MOTOR OMTS 250 CC	1

COD.	REF.	DESCRIPTION	Q.TY'
	40	MOTOR O-RING 125x3	1
	41	FILL/BREATHER PLUG 3/8" G	1
	42	CAPSCREW UNI 5931 M10x30	12
	43	CAPSCREW UNI 5931 M10x25	2
	44	CAPSCREW UNI 5739 M10x30	12
	46	CAPSCREW UNI 5739 M8x16	1
	47	OIL SEAL 32x50x7	2
	48	OIL SEAL 56x70x8	1
	49	TEFLON DISC SPRING	2
	50	TEFLON DISC	2
	51	OIL PLUG 3/8" G	2
	52	GEAR HOUSING COVER GASKET	1
	53	FLANGE GASKET	2
	54	WASHER UNI 6592 D10	6
	55	CAPSCREW UNI 5931 M10x35	6
	56	LOCK WASHER UNI 9195B D12	4
	57	CAPSCREW UNI 5931 M12x40	4
	58	BEARING 7307	2
	59	LOCK WASHER UNI 9195B D10	18
	60	DRUM	1
	61	MANUAL CLUTCH HOUSING	1
	62	GEAR HOUSING	1
	63	MOUNTING ANGLE MOTOR SIDE	1
	1A	AIR CLUTCH SPRING	1
	5	BUSHING	1
	6	LUBRICATOR M6 UNI 7673	1
	6A	CAPSCREW UNI 5931 M8x80	4
	7A	FORK	1
	9A	AIR CYLINDER	1
	14	TEFLON PLUG	1
	15A	LOCK NUT UNI 7473 M16	1
	61A	AIR CLUTCH HOUSING	1

7.4 MHS 8000 WINCH PARTS DRAWING

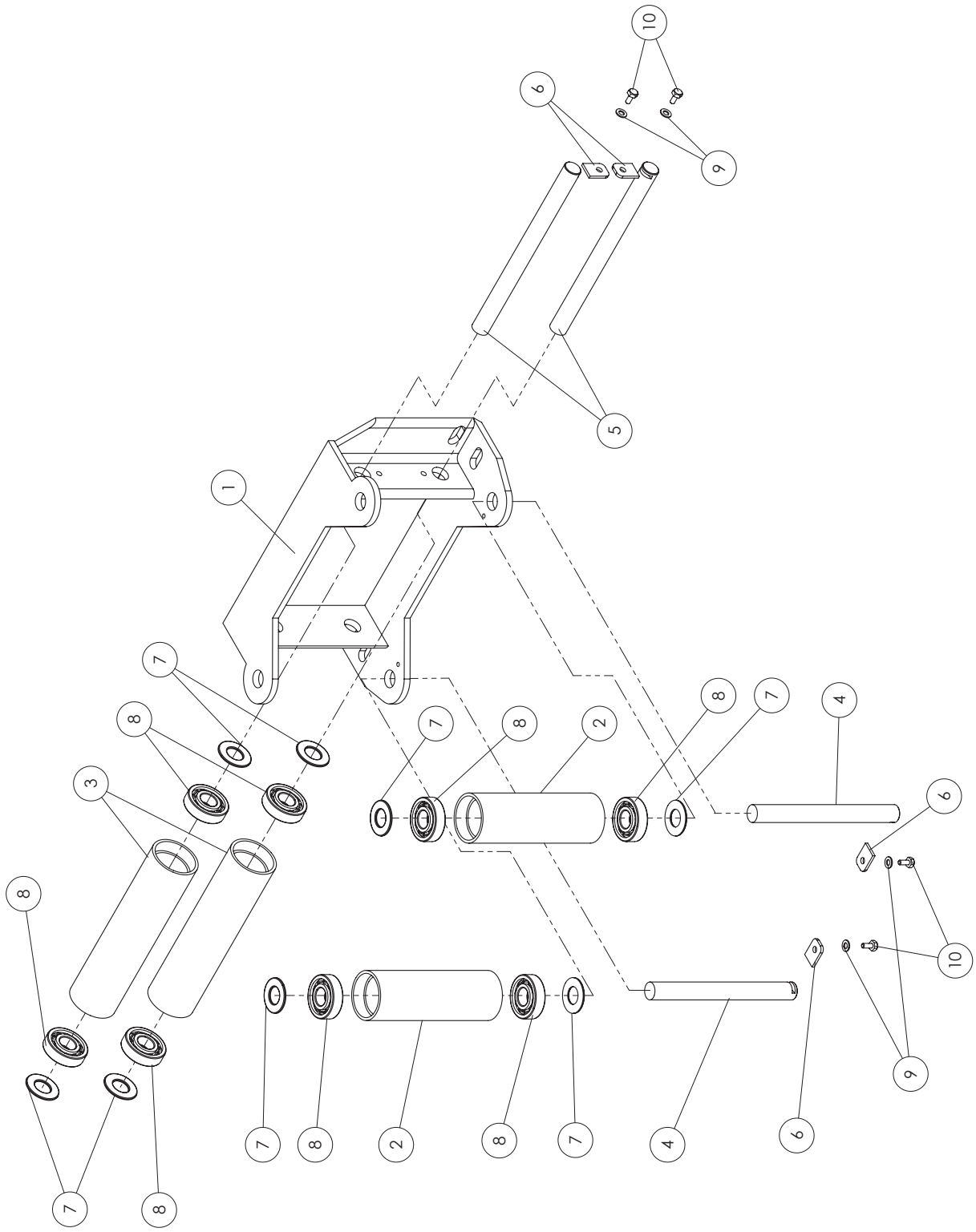


7.5 HEAVY-DUTY ROLLER FAIRLEAD PARTS LIST

COD.	REF.	DESCRIPTION	Q.TY'
	1	fRAME	1
	2	VERTICAL ROLLER	2
	3	HORIZONTAL ROLLER	2
	4	VERTICAL ROLLER SHAFT	2
	5	HORIZONTAL ROLLER SHAFT	2
	6	PLATE	4
	7	THRUST WASHER	8
	8	BEARING 6305 2RS	8
	9	WASHER UNI 6592 D8x16	4
	10	CAPSCREW UNI 5739 M8x16	4
		BOLTS AND NUTS MOUNTING	
		CAPSCREW UNI 5737 M16x50	2
		CAPSCREW UNI 5739 M16x40	2
		NUT UNI 5587 M16	2
		WASHER UNI 6592 D16	6
		LOCK WASHER UNI 9195B D16	2

COD.	REF.	DESCRIPTION	Q.TY'

7.6 HEAVY-DUTY ROLLER FAIRLEAD PARTS DRAWING

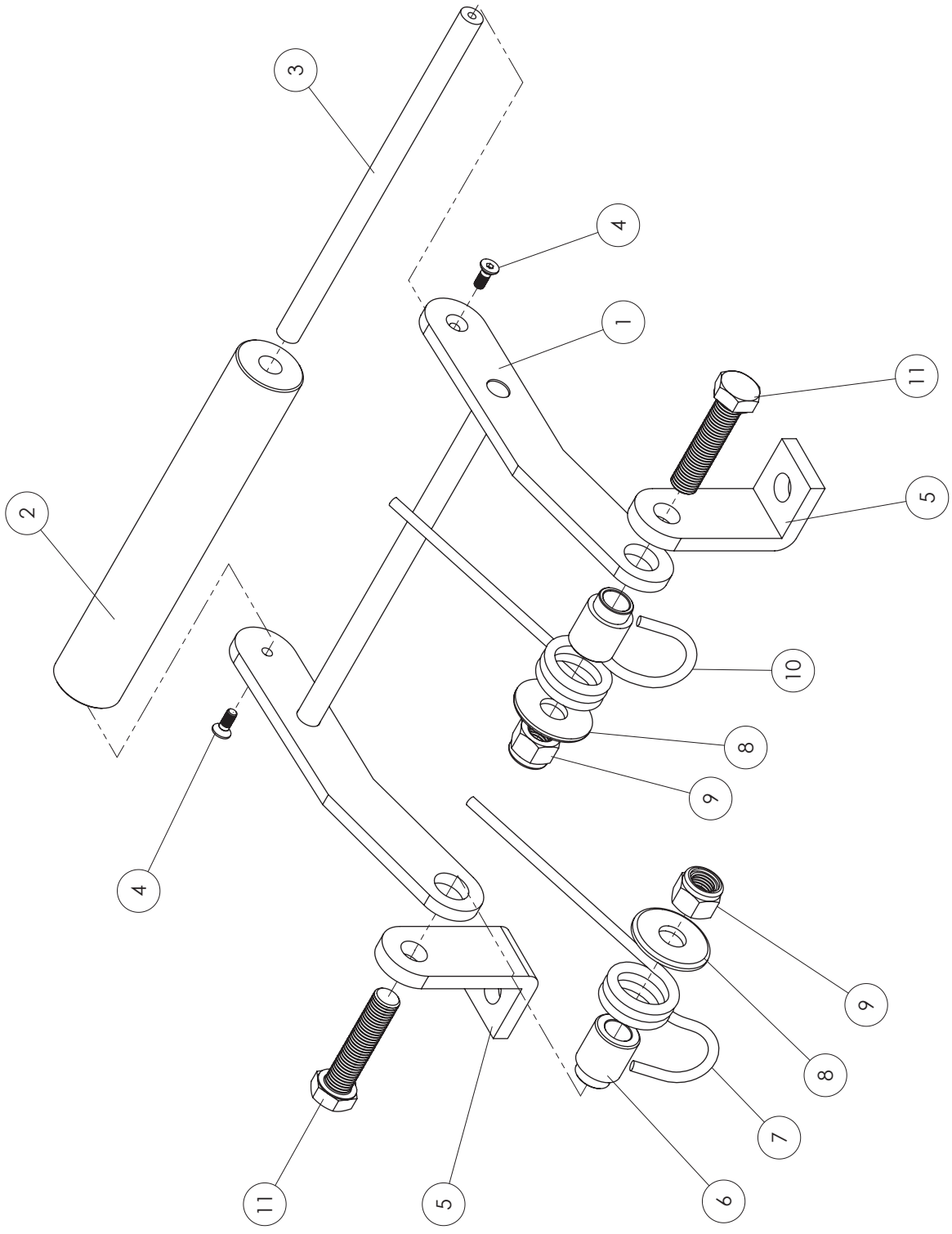


7.7 CABLE TENSIONER PARTS LIST

COD.	REF.	DESCRIPTION	Q.TY'
	1	FRAME	1
	2	ROLLER	1
	3	ROLLER SHAFT	1
	4	CAPSCREW UNI 5933 M6x16	2
	5	SUPPORT	2
	6	BUSHING	2
	7	DX SPRING	1
	8	WASHER 12,5x48x2,5	2
	9	LOCK NUT UNI 7473 M12	2
	10	SX SPRING	1
	11	CAPSCREW UNI 5737 M12x60	2
		BOLTS AND NUTS MOUNTING	
		CAPSCREW UNI 5931 M10x30	2
		WASHER UNI 6592 D10	4
		LOCK NUT UNI 7473 M10	2

COD.	REF.	DESCRIPTION	Q.TY'

7.8 CABLE TENSIONER PARTS DRAWING



GARANZIA

La Ditta V.I.M.E. s.r.l garantisce all'originario acquirente , tutte le parti e componenti del verricello , esclusa la fune , di essere esenti da difetti nel materiale e nella produzione per un periodo : di 1 anno per le parti elettriche e meccaniche. L'obbligo , in base a questa garanzia , si limita alla sostituzione o alla riparazione , eseguita presso la Ditta V.I.M.E. s.r.l. o presso un Centro Servizio Autorizzato dalla Ditta V.I.M.E. s.r.l. , di quella parte che si ritenga presenti difetti di materiale o di produzione , in seguito a perizia sulla parte in questione.Questa garanzia non obbliga la V.I.M.E. s.r.l. a sostenere i costi della manodopera o di trasporto , connessi alla sostituzione o riparazione delle parti difettose , ne è valida per un prodotto sul quale sono state apportate delle modifiche o sul quale sono state eseguite riparazioni , se non autorizzate dalla V.I.M.E. s.r.l. stessa , o nel caso di difetti dovuti ad un utilizzo improprio o negligente dell'attrezzatura o ad un montaggio non corretto del verricello. La Ditta V.I.M.E. s.r.l. che segue una politica di continuo miglioramento , si riserva il diritto di migliorare i propri prodotti , apportando delle modifiche nel design o nei materiali , che possano ritenersi desiderabili , senza essere obbligata ad includere tali modifiche nelle attrezzature precedentemente prodotte. La Ditta V.I.M.E. s.r.l. declina ogni responsabilità per sinistri a persone , animali ed a cose derivanti da inosservanza di tutte le istruzioni contenute nel manuale fornito a corredo del verricello ed in particolare per :

- Inosservanza degli aspetti globali della sicurezza.
- Collegamenti scorretti alla fonte di energia.
- Carenza di manutenzione ordinaria e straordinaria.
- Usi impropri diversi da quelli specificati.
- Interventi di personale non qualificato.

GARANTIA

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- Inobservancia de los aspectos globales de la seguridad.
- Instalaciones incorrectas a la fuente de energía.
- Carencia de mantenimiento ordinario y extraordinario.
- Usos improprios diversos de los especificados.
- Intervenciones de personal no cualificado.

GARANTIE

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- Nichtbeachtung der grundsätzlichen Sicherheitsvorschriften.
- Unsachgemäßer Anschluß an die Energiequellen.
- Fehlende Wartung und Instandsetzung.
- Unzweckmäßiger Einsatz des Gerätes.
- Eingriffe durch unqualifiziertes Personal.

WARRANTY

V.I.M.E. s.r.l. warrants to the original buyer , all parts and components except the wire rope , to be free from defects in materials and workmanship for a period of (one) 1 year for electrical and mechanical components. The obligation under this warranty , statutory or otherwise , is limited to the replacement or repair at V.I.M.E. s.r.l. , or at a point designated by V.I.M.E. s.r.l. of such of part that shall appear to V.I.M.E. s.r.l. , upon inspection of such part , to have been defective in material or workmanship. This warranty does not obligate V.I.M.E. s.r.l. to bear the cost of labour or transportation charges in connection with the replacement or repair of defective parts , nor shall it apply to product upon which repairs or alterations have been made, unless authorized by V.I.M.E. s.r.l. , or for equipment misused , neglected or which has not been installed correctly. V.I.M.E. s.r.l. whose policy is one of continuos improvement , reserves the right to improve its products through changes in design or materials as it may deem desirable without being obligated to notify of such changes in products prior to manufacture. V.I.M.E. s.r.l. has no responsibility for physical injury to persons , animals or property damage that can result from failure to read and apply the instructions contained in the Manual supplied with the winch and especially for :

- Failure with global safety aspects .
- Incorrect linking to the source of energy .
- Deficiency in annual and monthly maintenance .
- Improper uses .
- Any alteration , repair or modification from unauthorized personnel .

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