our ideas, your solutions

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ASSEMBLY INSTRUCTIONS

“MANUALLY-OPERATED SCREW JACK WITH BASE PLATE OR WITH WHEEL”

“HYDRAULIC JACK”

“MANUALLY-OPERATED ADJUSTING SPINDLES”

ORIGINAL INSTRUCTIONS

Rev. 1 dated 29/09/2021

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1 OVERVIEW

The partly completed machinery manufactured by **Simol S.p.A.** consists of devices operated either manually or by another power source, furnished with a base (with base plate or with wheel) and/or point of attachment to the machinery or equipment. It is designed to support, stabilise and adjust the height of the machinery and equipment, or parts thereof, into which they are incorporated. The partly completed machinery described herein must not be put to other uses without the express authorisation of **Simol S.p.A.**

Simol S.p.A. devices are not intended to operate on their own; rather, they are made to be inserted into more complex machinery. They have been designed for the purpose of guaranteeing the best results, provided that all of the instructions for assembly, installation, use and maintenance, as well as the recommendations and warnings provided in these installation instructions, are heeded.

Operators' complete safety during operations is automatically guaranteed if the instructions and warnings provided in the use and maintenance manual and on the partly completed machinery itself are heeded.

IMPORTANT: For the purpose of clarity, some of the images in this manual may show the partly completed machinery without some of its protective devices/covers. This is done solely for the purposes of explanation. The partly completed machinery may not be used without protective devices or with its safety devices disabled.

NOTE: The partly completed machinery has been designed to be inserted into a complete machine. It may not be put into service until the machinery into which it is to be incorporated and of which it is to become a part has been identified and its conformity with the provisions of DIRECTIVE 2006/42/EC has been declared, in other words, until the machinery that is the object of these installation instructions has been incorporated into the final complex machinery of which it forms a part. Nonetheless, in order to render the operating logic and the safety measures adopted easier to understand, these installation instructions include photographs and notes in which the real installation conditions of the partly completed machinery, complete with all of its parts, are described.

IMPORTANT! **The manager of a piece of equipment is obliged to abide by the regulations and warnings provided in the aforesaid instructions, so as to achieve the highest degree of safety for the personnel operating said equipment.**

These Instructions are an integral part of the partly completed machinery, their purpose being to provide all of the necessary information.

1.1 RELEVANT LAWS AND REGULATIONS

- **MACHINERY DIRECTIVE 2006/42/EC** enacted in Italy through Legislative Decree 17/2010;
- **UNI EN ISO 12100:2010:** Safety of machinery – Principles for risk assessment.

1.2 LIABILITY AND WARRANTY

WARRANTY

The manufacturer undertakes to provide warranty coverage for the equipment described in these instructions until expiration of the contractually agreed upon term and, in any event, in accordance with the provisions of the warranty laws in force; within said term, the manufacturer undertakes to repair or replace faulty parts or parts causing a malfunction, provided that the partly completed machinery has been used correctly and in keeping with the recommendations provided in the installation instructions.

The warranty shall be invalidated:

- If the equipment is tampered with by personnel not authorised by **Simol S.p.A.**
- If non-genuine replacement parts which have not been supplied by **Simol S.p.A.** are used.
- Because of poor maintenance and irregular use of the equipment.
- The warranty excludes those parts of the equipment that are subject to wear.
- If the installation that has been performed does not comply with these instructions
- If the partly completed machinery is used for different purposes than foreseen by these instructions

LIABILITY

Simol S.p.A. shall not, in any event, be held liable for irregular operation or generic faults caused by unauthorised use of the equipment or by service and/or modifications carried out by external parties not authorised by **Simol S.p.A.**

IMPORTANT!

Simol S.p.A. assumes no liability in the event of assembly, installation, use, modifications or mounting of the product using procedures that differ from those provided in the instructions themselves. If the equipment shows any sign of damage, please see the terms governing product returns. Accessories not mentioned in these instructions must not be used.

1.3 REQUESTS FOR SERVICE/TECHNICAL SUPPORT AND ORDERING REPLACEMENTS

Customer service is managed directly by the manufacturer; therefore, if you must contact customer service, it is necessary to do so at the postal or electronic mail (e-mail) address, telephone or fax number provided below:

Simol S.p.A.	**Via Fiocchetti n.14 – 42045 Codisotto di Luzzara (RE) - Italy**
Switchboard operator	**Tel. +39 0522 976728**
E-mail	customercare@simol.com

2 OPERATOR SAFETY REGULATIONS

2.1 PROVISIONS FOR OPERATOR SAFETY

The regulations listed below must be read with care; they must become an essential part of daily management and maintenance procedures for the partly completed machinery, in order to prevent injury of any kind and/or damage to property.

Before incorporating partly completed machinery into the final machinery or equipment, check the partly completed machinery for damage and ensure that it is functioning properly.

Do not attempt to operate the partly completed machinery until its operation and the procedure for its installation has been clearly understood. If, despite having read these instructions carefully and in their entirety, something remains unclear, contact Simol S.p.A.

Make sure that the personnel involved in the installation, cleaning, maintenance and use of the partly completed machinery are aware of all of the relevant safety provisions.

All of the signs featuring hazard and safety information and instructions for use must be kept in perfect condition. If they become damaged or otherwise deteriorate, they must be replaced promptly.

Always alert all personnel in the vicinity before starting up the partly completed machinery. The protective devices must never be removed or rendered ineffective when the equipment is in operation.

Before starting up the equipment, the operator must check the equipment and its components for any visible defects. If the check yields results, notify Simol S.p.A. immediately of any breakage evident within the equipment system or to any other operational component.

Some protective devices may need to be removed during maintenance, adjustment or repairs. This may only be done by authorised personnel.

Never run the partly completed machinery when the fixed protective devices have been removed. Operators' garments must be as suitable as possible, in other words, not too loose-fitting and without parts that might flap or catch. Do not wear clothing, adornments or accessories that could become caught in the moving parts. Do not wear belts, rings, bracelets or chains.

Replace parts deemed to be faulty with others recommended by Simol S.p.A. NEVER attempt anything that might be hazardous.

For no reason whatsoever should you attempt any action involving moving parts, not even to unblock a jam. Inspection of the partly completed machinery during operation is prohibited.

Always wear safety goggles, ear protectors, safety shoes, work clothing, gloves and any other personal protective equipment in the areas where it is required.

Leaning against the partly completed machinery or on any part of it during operation is prohibited. Sitting and/or resting against parts thereof is prohibited. It is forbidden to modify the equipment components or mount additional devices on it without authorisation from Simol S.p.A.

It is forbidden for personnel without the required qualifications to service the partly completed machinery. Never place hands, arms or any part of the body in proximity to moving parts.

When searching for and removing the cause of any mechanical failure or issue, adopt all of the precautions described in the instructions themselves, which are appropriate for preventing injury and/or property damage.

Before beginning any installation, maintenance or use operation, focus all of your attention on what you are preparing to do. You must be extremely careful and always remain alert and ready to react; this attitude is essential for the person operating the equipment.

If the operator should feel unwell or physically unfit, even to a slight degree, in a manner that might decrease his level of alertness, he must not put the equipment into operation or perform any action involving aggregate or accessory equipment; he must then inform the person in charge.

Never perform maintenance or tuning operations alone. Another person must be present to provide first aid in case the operator is taken ill or there is an emergency.

The assembly instructions have been drawn up in such a way as to allow the operator to safely work with the partly completed machinery.

Anyone who has not read or is not familiar with these assembly instructions may not install or operate the partly completed machinery.

Before installing it and putting it into operation, read these assembly instructions carefully. Pay particular attention to the safety warnings.

These instructions are intended for persons with basic technical knowledge regarding the use of devices similar to those described in this document.

Never work with the partly completed machinery after having consumed alcohol, taken medicines that can affect your ability to react or taken drugs.

The partly completed machinery described herein is not conceived for use by people with reduced intellectual ability and/or a lack of experience and/or a lack of adequate knowledge (including children), unless they are supervised by a person with safety expertise or they have received instructions/training on how to use the devices.

The manufacturer assumes no liability for damages caused by a failure to follow these assembly instructions.

The partly completed machinery described herein is not suitable for towing or lifting objects, people or animals.

When connecting the hydraulic components (only in the case of the hydraulic jack), be sure to follow the relevant instructions and choose suitable connection lines.

When connecting or removing hydraulic components (only in the case of the hydraulic jack), make sure that the hydraulic circuit is not under pressure!

If hydraulic connections are operational, the coupling joints and coupling pins must be marked to prevent malfunctions.

When searching for leaks, use suitable auxiliary equipment, so as to avoid injury risk.

Escaping liquids under high pressure (hydraulic oil) can penetrate the skin and cause serious injury. In the event of injury, see a doctor immediately.

2.2 SAFETY SYMBOLS AND STICKERS

Sign may be affixed to the partly completed machinery bearing the following symbols, in order to highlight possible hazards and the requirements that the operator must fulfil during equipment operation:

HANDS AND FEET CRUSHING HAZARD
This symbol indicates the existence of a hands and feet crushing hazard as a result of moving parts.
The operator must exercise caution when this symbol is present and only approach when equipped with the specific PPE required.

FLUID EJECTION HAZARD
This symbol indicates the existence of a hazard due to fluids under pressure.
The operator must exercise caution when this symbol is present and only approach when equipped with the specific PPE required.

REMOVAL OF SAFETY DEVICES PROHIBITED
Affixed where there are fixed safety devices.

IT IS OBLIGATORY TO READ THE ASSEMBLY INSTRUCTIONS
Before undertaking any type of operation, it is obligatory to read this instruction manual. Those who do not implement the information provided herein may suffer irreparable damages and cause injury or damage to people or property. It is strictly forbidden to start up partly completed machinery or allow it to be started up by anyone who has not read, understood and absorbed the contents of this manual.

IMPORTANT! **The affixing of safety pictograms is the responsibility of the manufacturer of the final machinery, once any necessary modifications have been made.**

2.3 PERSONAL PROTECTIVE EQUIPMENT

Before beginning work, the operator must be familiar with the setup and operation of the partly completed machinery's controls and features and must have read this manual in its entirety and the other manuals annexed to it as necessary.

IMPORTANT! **The operator must always heed the prescriptions on the signs and stickers affixed to the partly completed machinery.**

IMPORTANT! **Workers are required to use the necessary personal protective equipment in order to safely lift, transport, run, maintain and clean the partly completed machinery.**

The PPE (Personal Protective Equipment) that the operator must use as needed is as follows:

WHEN PERFORMING MAINTENANCE AND CLEANING:
Work clothing, anti-slip shoes, gloves.

2.4 AIRBORNE NOISE AND VIBRATIONS

The partly completed machinery described herein has been designed to be incorporated into a piece of complete machinery; it is the responsibility of the party performing the final assembly to measure the sound intensity linked to the emissions from the completed machinery and to measure the vibrations.

If the partly completed machinery is installed in a complete piece of machinery that is located in a reverberating environment or one with other noise sources, and the level of daily exposure to noise is greater than 85 dB(A), then there is a risk; in this event, the employer is obliged to provide workers with personal protective equipment (earmuffs, earplugs).

IMPORTANT! **Read the component installation and maintenance manual annexed to this document.**

2.5 RESIDUAL RISKS

The partly completed machinery described herein has been designed and manufactured using suitable precautionary measures to guarantee user safety. There are nonetheless some residual risks related to incorrect installation or improper use by the operator; for this reason, hazard signs and symbols may be affixed near to or on some parts of the equipment.

HANDS AND FEET CRUSHING HAZARD

FLUID EJECTION HAZARD

Given that the risk level is highest when an operator enters a hazardous area to adjust, clean or maintain the equipment or to perform other manual operations that may become necessary, all such operations must be performed with the utmost care.

It is forbidden to climb onto the partly completed machinery or rest materials or things on or against it.

RESIDUAL HANDS AND FEET CRUSHING RISK

There are suitable instructions for the use of the partly completed machinery. The moving parts have been completed covered by fixed safety devices, but a potential residual risk of crushing of the hands and feet, strictly linked to improper operations on the part of the user, nonetheless remains.

HANDS AND FEET CRUSHING HAZARD
This symbol indicates the existence of a hands and feet crushing hazard as a result of moving parts.

To reduce this risk: the operator must exercise caution when this symbol is present and only approach when equipped with the specific PPE required.

RESIDUAL RISK OF FLUID EJECTION

The internal parts of the partly completed machinery are completely covered by fixed safety devices; a potential residual risk of fluid ejection nonetheless remains.

FLUID EJECTION HAZARD
This symbol indicates the existence of a hazard due to the presence of fluids under pressure.

To reduce this risk: the operator must exercise caution when this symbol is present and only approach when equipped with the specific PPE required.

3 CHARACTERISTICS

3.1 TECHNICAL CHARACTERISTICS

The functional purpose of **Simol S.p.A.** devices is to support, stabilise and adjust the heights of marchinery, equipment or parts thereof. Simol devices are considered partly completed machinery and are therefore intended exclusively to be incorporated into more complex machinery. Depending on the model (see section 3.2), **Simol S.p.A.** devices differ from each other in terms of the following characteristics:

- Outer tube cross-section type
- Screw or rod travel
- Type and size of wheel
- Maximum static load limit in compression
- Maximum static load limit in tension
- Operating pressure

For questions of a technical nature, please contact the **Simol S.p.A.** technical support staff.

Any use other than the above is not permitted and shall be considered non-conformance. Furthermore, such use may be hazardous and cause injury, material damage and damage to the environment.

No use other than that which is in conformity, as described above, is permitted, as this could result in a high risk of accidents with serious and lasting consequences to persons and the environment, as well as material damage.

All of the safety and use warnings contained in these instructions must be read alongside the technical documentation for the trailer and the machinery.

For more information concerning possible applications, connection methods and loading capacities, see the technical data:

- The maximum travel permitted is reported by the manufacturer in the dedicated section of the catalogue, under the heading, “Screw travel”.

WARNING: Do not extend the partly completed machinery beyond the maximum allowed travel. The partly completed machinery jacks and jockey wheels with outer tube diameter 35mm, 42mm and 48mm do not have the end of stroke device

- The maximum static load provided in the catalogue under the heading “Max. static load” should be understood to be at the halfway point of the maximum travel permitted.

WARNING: Do not subject the partly completed machinery to loads greater than the maximum static load limit.

IMPORTANT: the manufacturer of the final machinery is responsible for testing implementation once the product is incorporated into the machine for which it is intended. See the machine manual to learn the actual required loading capacity.

- The maximum operating pressure permitted for hydraulic drives (applies to hydraulic jacks) is: 200 bar. Hydraulic connector: 1 x DW pin connector, size 3. Fluid used: Mineral-based hydraulic oil ISO 46.

The environmental conditions in which the partly completed machinery being supplied is to operate must be taken into careful account.

WARNING: the wheel on the base is not suited for wheeling on roads; it is designed only to perform small movements.

3.2 OVERVIEW OF THE PARTLY COMPLETED MACHINERY

The partly completed machinery manufactured by **Simol S.p.A.** consists of devices operated either manually or by another power source, furnished with a base (with base plate or with wheel) and a point of attachment to the machinery or equipment. It is designed to support, stabilise and adjust the height of the machinery and equipment, or parts thereof, into which they are incorporated. The partly completed machinery described herein must not be put to other uses without the express authorisation of **Simol S.p.A.**
The partly completed machinery is made to be inserted into more complex machinery; these devices have been designed for the purpose of guaranteeing the best results, provided that all of the instructions for assembly, installation, use and maintenance, as well as the recommendations and warnings provided in these installation instructions, are heeded.
Operators' complete safety during operations is automatically guaranteed if the instructions and warnings provided in the assembly instructions and on the partly completed machinery itself are heeded.

WARNING: The components described in this section must only be replaced by a qualified expert. Incorrect use may increase injury risk and cause material damage.

The partly completed machinery consists of the following principal components:

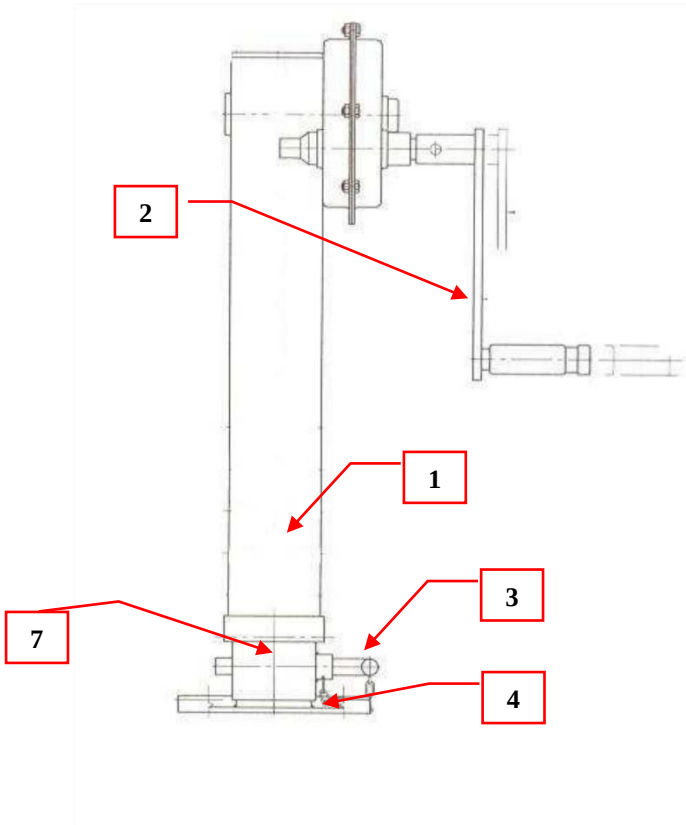


Fig. 3.1: Version KRA…

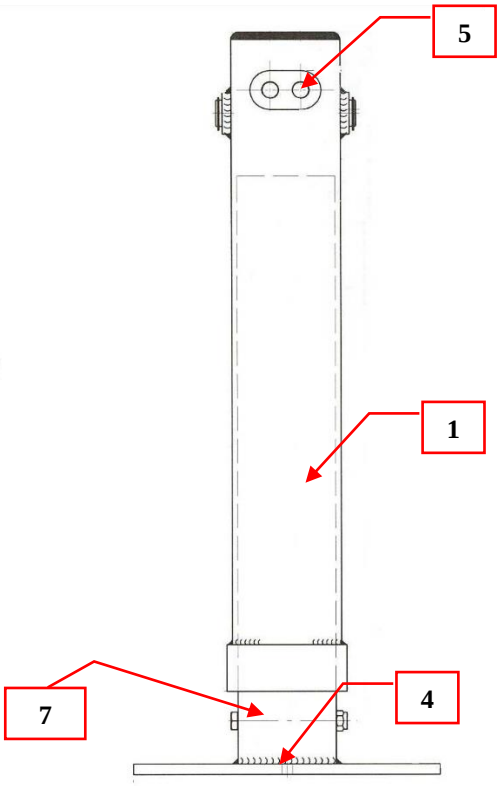


Fig. 3.2: Version H...

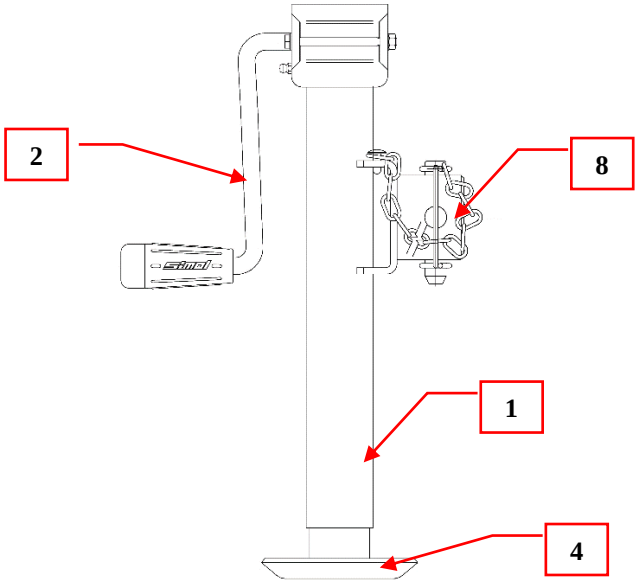


Fig. 3.3: Version LT...

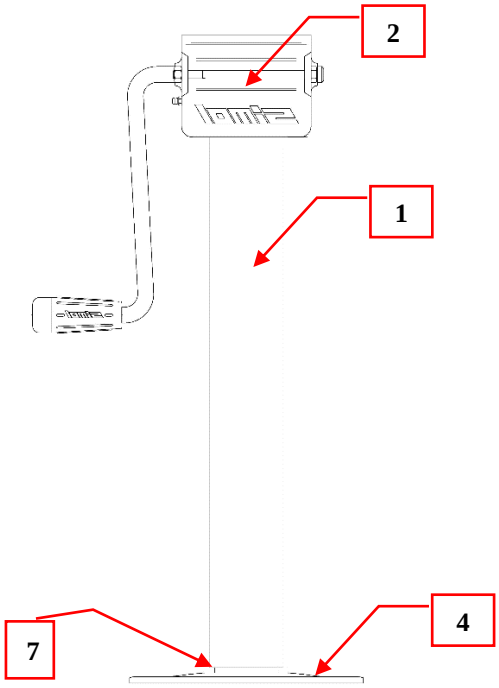


Fig. 3.4: Version DG…

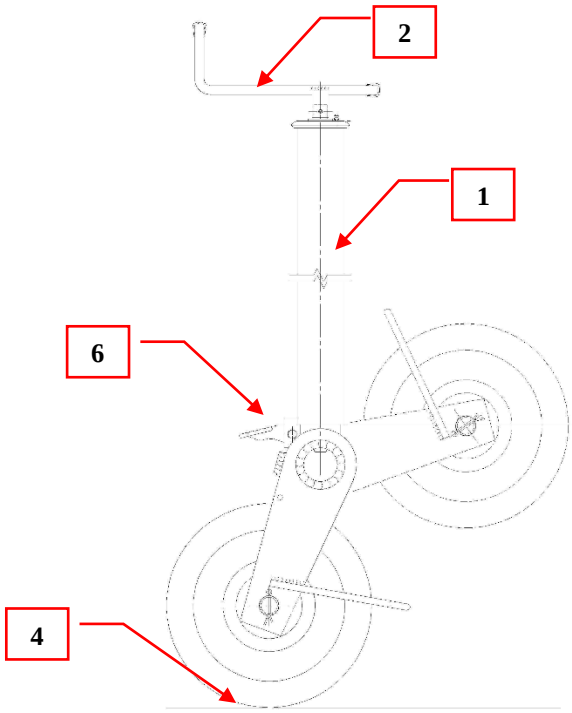


Fig. 3.5: Version M...

Position	Name
1	Outer tube (position for warning labels)
2	Component for adjusting the height
3	Lockpin for inner tube
4	Base (with base plate or wheel)
5	Hydraulic connections
6	Pedal
7	Inner tube
8	Connection interface to the machine

Table 3.1: Principal components of the partly completed machinery

The partly completed machinery is equipped with fixed protective guards whose size and position are in compliance with the law in force; these prevent the operator from coming into contact with areas where hazards are present and close off the points where there is a risk of crushing or of coming into contact with hazardous components, in a manner compatible with the operations to be performed**.**
All of the moving parts are intended to withstand the vibrations to which they many be subjected during the production cycle, if well maintained and used for the purposes for which they were designed.

If, despite having read this manual carefully and in its entirety, the composition of the partly completed machinery is still unclear, consult the drawings; if you still have further questions, contact the manufacturer Simol SpA.

IMPORTANT! **The images have been chosen to be representative of the entire product range. Your actual model may differ. Before using it, make sure it is suitable and seek verification from a specialised workshop.**

The partly completed machinery may be supplied in the standard version, with anti-rust preventer, electrolytic galvanizing, or in a customised surface treatment version upon request.

Exercise caution when performing manual operations on the partly completed machinery.

IMPORTANT! **For additional information about the different versions of the partly completed machinery, contact Simol S.p.A.**

Below are listed the versions of the partly completed machinery to which these instructions apply.

MANUALLY-OPERATED SCREW JACK WITH BASE PLATE	
Photo	**Description and operation**
	**2 STAGES** Safety system with locking device on the handle (optional). Rotate the handle to obtain the linear translation of the inner tube. Make further height adjustments by rotating the handle
	**3 STAGES** Safety system with support chain for the third stage. To use this version, proceed as follows: - Hold the handle on the base firmly. - Rotate the lockpin and slide it out. - Adjust the third stage. - Lock the third stage in place with the lockpin. - Make further adjustments using the handle.

	**DUAL SPEED** **Low gear (to handle loads)** Select low gear by pushing the handle. Turn it clockwise to extend the support foot. Rotate the handle in the opposite direction to retract the support foot **High gear (for fast approach to the ground of the support base):** Select fast gear by pulling the handle outwards turn it counterclockwise to extend (lower) the partly completed machinery rotate the handle in the opposite direction to retract the partly completed machinery from the ground
	**SWIVEL JACK WITH TUBE OR FLANGE** In rest position, the device is horizontal. Once the fastening pin has been removed, turn the device until it has reached a vertical position. Finally, insert the fastening pin.
MANUALLY-OPERATED SCREW JACK WITH WHEELED BASE	
Photo	**Description and operation**
	**WITHOUT TURNOVER**

	**WITH LATERAL MANOEUVRABILITY**
	**WITH TURNOVER AND AUTOMATIC WHEEL LOCKING** The wheel turns over automatically when the handle that operates the support is turned.
	**WITH SEMI-AUTOMATIC TURNOVER AND PEDAL-OPERATED WHEEL LOCKING/TIGHTENING** Unlock the wheel by pressing the pedal; turn the wheel by means of the dedicated handle until it locks automatically.

	**WITH SEMI-AUTOMATIC TURNOVER AND SPRING LOCKING** To flip the wheel, turn it manually by means of the dedicated handle. The spring system allows the wheel to lock automatically.
	**WITH MANUAL TURNOVER AND WHEEL LOCKING BY MEANS OF A PIN** Remove the lockpin and turn the wheel manually; reinsert the lockpin to secure the wheel.

Table 3.2: Manually-operated screw jacks with base plate or wheel**.**

The manually-operated screw jacks with base plate or wheel can be supplied with the handle on top or on the side. The wheels can be supplied in metal or rubber and are not equipped with a locking brake.

CAUTION! The wheels are not suitable for road travel.

HYDRAULIC JACK	
Photo	**Description and operation**
	**WITH DUAL-ACTING CYLINDER AND ONE BLOCK VALVE**
	**WITH DUAL-ACTING CYLINDER AND TWO BLOCK VALVES**
	**HYDRAULIC SWIVEL JACK, SINGLE ACTING**

Table 3.3: Hydraulic jacks

The hydraulic jacks can be supplied with a fixed base or a skidfoot.

IMPORTANT! **Connection of the oil lines for the hydraulic base plates is the responsibility of the user.**

IMPORTANT! **For a stronger grip, install bonded washers on the hydraulic connections.**

IMPORTANT: Do not use in environments where there is a risk of explosion.

MANUALLY-OPERATED ADJUSTING SPINDLES	
Photo	**Description and operation**
	**FOLDING TOP HANDLE**
	**SIDE HANDLE**

Table 3.4: Adjusting spindles

3.3 PERMITTED USES AND OPERATIONAL LIMITATIONS

The partly completed machinery has been made solely to be incorporated into other machinery.

The partly completed machinery must not be put to any uses other than those provided for and recommended in these assembly instructions without the express authorisation of Simol S.p.A. You must contact Simol S.p.A. for specific approval before making any modifications.

IMPORTANT!

The partly completed machinery may not be put into service until the machinery in which it is to be incorporated and of which it is to become a part has been identified and its conformity with the provisions of DIRECTIVE 2006/42/EC has been declared, in other words, until the partly completed machinery that is the object of these installation instructions has been incorporated into the final complex machinery of which it forms a part.

4 STORAGE, LIFTING AND TRANSPORT

4.1 SHIPMENT, TRANSPORT AND DELIVERY OF THE PARTLY COMPLETED MACHINERY

IMPORTANT! **Upon delivery of the partly completed machinery, check that every component is intact. If any components are damaged, inform Simol S.p.A. promptly.**

The following must be prepared in advance when the partly completed machinery arrives at the customer's facility:

- sufficient space for its installation
- the most suitable equipment for the unloading and placement in-situ of the partly completed machinery's components

All of the delivery and unloading operations must take place in the presence of a single manager, whose responsibility it shall be to monitor the operations, to check whether any parts essential to the proper assembly of the partly completed machinery are missing and whether it has been damaged during transport (all with the assistance of the shipping note).

IMPORTANT! **The individual components are packed on wooden pallets or in wooden crates. The purpose of this type of packing is transport via road. ONCE THE TRANSPORT AND INSTALLATION ARE COMPLETE, THE PACKING MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH THE LAW IN FORCE.**

If the exterior of the packing material is damaged, open it in the presence of the carrier and check that the partly completed machinery has not suffered any damage.
Describe any damage discovered on the shipping documents and inform **Simol S.p.A.** immediately. If the packages show no irregularities, nonetheless check the exterior of the devices within 7 days of the delivery date. If there is visible damage resulting from their transportation, inform the carrier, the insurance company and **Simol S.p.A., if the agreed upon Incoterms® for transport provide for this.**

4.2 GENERAL WARNINGS

The handling operations described in this section must only be performed by qualified personnel specifically trained to safely load and unload large items using lifting equipment.

Local personnel must be familiar with the rules for accident and injury prevention.

IT IS ESSENTIAL THAT THE WEIGHT OF THE LOAD TO BE LIFTED BE TAKEN INTO ACCOUNT!!! Check that the load is stable and cannot be a source of hazards and/or accidents due to instability. When moving items whose size is such as to limit field of vision, there must be a second operator present to assist on the ground.

Ensure that the vehicles and logistical structures employed are appropriate for the use required and in perfect working order.

During the moving operations, the operators must be equipped with appropriate personal protective equipment, such as: gloves, anti-slip shoes and hard hats.

In order to prevent the partly completed machinery or parts thereof from striking people if they should fall, make sure that, during lifting, no one is within the range of movement of the partly completed machinery that is being lifted.

Before any moving operation, always ensure that the lifting machinery and its equipment are suitable for lifting the load that is to be moved; make sure that the load is sufficiently stable.

Movement on ground that is unpaved or on broken or on extremely uneven flooring is prohibited.

4.3 UNPACKING AND LIFTING THE PARTLY COMPLETED MACHINERY

The partly completed machinery is packed on pallets or in crates; these packages are to be moved using a forklift truck or a transpallet.

Use vehicles and lifting equipment with a loading capacity suitable for the load to be moved; overestimate the weight of the items to be moved in order to guarantee adequate strength and safety.

Once unpacked, the partly completed machinery is of a size and weight that render it impossible to transport manually.
Ensure, when moving, that the loading capacity of the lifting equipment is sufficient. Before beginning the moving operation, check the stability of the components to be transported.
In order to ensure that the partly completed machinery is moved safely, comply strictly with the general instructions provided below:

a. Transport the packages containing the partly completed machinery as close as possible to their installation location before unpacking them; when unpacking, make sure to check that the contents match the shipping note.

b. Remove the disassembled parts and their accessory components. Using extreme care, remove all of the material used to pack the partly completed machinery components.

The rated loading capacity of a forklift is never the same as its actual loading capacity, which varies based on the height at which the operation is being performed and the load's centre of gravity with respect to the back of the forks.

IMPORTANT!

The customer is responsible for the disposal of the packing materials, which must be carried out in accordance with regulations in the country in which the partly completed machinery is being installed.

IMPORTANT!

The manufacturer shall never be held liable for damages arising from improper handling, failure to observe our prescriptions, or improper handling by untrained personnel.

BEFORE BEGINNING THE MOVING OPERATION, CHECK THE STABILITY OF THE COMPONENTS TO BE TRANSPORTED AND CLOSE ALL OF THE COVERS.

IT IS ESSENTIAL THAT THE WEIGHT OF THE LOAD TO BE LIFTED BE TAKEN INTO ACCOUNT.

ALL LIFTING AND TRANSPORT OPERATIONS MUST BE OBSERVED AND SUPERVISED BY AUTHORISED PERSONNEL.

4.4 STORAGE AND ENVIRONMENTAL CONDITIONS

In the event of long-term storage, keep the partly completed machinery components out of the rain and wind and, if possible, in a dry place. Ensure that the electrical components are especially well protected against dust and foreign materials. The partly completed machinery can be severely damaged if, while awaiting installation, it is stored in an environment where temperatures are excessively high or low. Do not expose the partly completed machinery to temperatures lower than 5°C or higher than 40°C. Do not expose the partly completed machinery to (non-condensing) humidity lower than 10% or greater than 80%.

5 INSTALLATION AND CONNECTION TO POWER SUPPLY

5.1 INSTALLATION NOTES

All of the technical specifications of the partly completed machinery that are necessary for its proper installation are provided in this section and in the section entitled "CHARACTERISTICS".

Before beginning installation, check the following:

1. Make sure that the partly completed machinery is perfectly clean.
2. Check that there are no objects in the vicinity of the moving parts or of the work station.
3. Check that all of the safety devices are properly installed and in working order.
4. Check that the support surface is sufficiently solid to bear its weight.
5. Check that the support surface is sufficiently level and does not have depressions and/or dips.
6. Check that the installation surface is industrial in nature and of a sufficient size, taking into account the additional space required for installation.
7. Prepare the necessary electrical connections in advance.

5.2 INSTALLATION INSTRUCTIONS

The partly completed machinery described herein has been designed to be incorporated into a piece of complete machinery. It is the responsibility of the final assembler to position the partly completed machinery in the optimal manner for its final operation.
Before assembly and use on the machinery/equipment, check the following points, in order to ensure that the device can operate safely.

WARNING: Before assembly and disassembly, the machinery/equipment must be secured in place, so as to prevent undesired movements. Before connecting it to the machinery, ensure that the attachment point or fastener is clean and intact.

WARNING: Damage or dirt can hinder proper connection. Check that the connector components are intact and complete.

WARNING: In case of damage, genuine replacement parts must be used.

WARNING: The use of unsuitable or defective tools can lead to accidents and injuries.

WARNING: Only technically qualified personnel may perform the assembly.

IMPORTANT! **The partly completed machinery can function only when installed in the final machinery. The partly completed machinery has not been made to operate on its own.**

For assembly, proceed as follows:

1. Remove the partly completed machinery from its packing materials and place it on a clean and stable surface.
2. Check that the fastening points are lined up. If in doubt, consult an expert.
3. Complete the mechanical connection between the partly completed machinery and the machinery in compliance with these assembly instructions and the machinery's instruction manual.
4. Ensure that the connection has been executed in a workmanlike manner.

WARNING: Ensure that there is sufficient clearance between the ground and the partly completed machinery in retracted position. If clearance is insufficient or too limited, the partly completed machinery could become damaged and, furthermore, cause accidents and injuries.

5. If using hydraulic jacks:

    1. connect the oil supply hoses

    2. during the testing phase of the hydraulic system of the machine, bleed the cylinder of the jack with repeated extensions and retractions.

WARNING: Tighten and control the oil supply connections. Ejections of hydraulic fluid can cause serious injury.

6 Connect the hydraulic conduits to the control circuit of the towing vehicle in compliance with the vehicle's use instructions.

WARNING: Improperly executed connections can lead to a high risk of injury and of damage to the environment.

IMPORTANT! **Use uncontaminated hydraulic fluid. The presence of foreign matter in the oil can cause malfunctions and damage the gaskets on the hydraulic jack.**

WARNING: If not properly fixed, the partly completed machinery can move on its own, leading to injury.

7 In the event of non-conformity, take corrective measures immediately.

WARNING: Touching the piston rod while it is moving carries a high risk of injury, the possibility of serious contusions and even loss of limb.

5.3 PARTLY COMPLETED MACHINERY: FASTENING METHODS

The partly completed machinery can be fastened to the machinery in one of the following ways:

- by means of bolted connections
- by means of welding
- by means of mounting tube or mounting plate and pin
- by means of another type of connection made according to the project of the client, who must undertake to validate it during incorporation into the machine

For all of these methods, the information provided in sections 5.2, 5.3.1 and 5.3.2 must be taken into account. The fastening operations must only be performed by qualified technical personnel.
Attachment by means of bolted connections requires that the base plate or wheel be equipped with a specific interface flange/tube welded in advance to the external sleeve.

5.3.1 CONNECTING THE PARTLY COMPLETED MACHINERY USING BOLTED CONNECTIONS

The following standard product ranges are suitable for screwing onto the vehicle: AC, FC, LC, KRA, K, H, DT, S, DM, M, FO, DV, P, ZB, PE, PR.

Heed the safety warnings in chapter 5.2 when performing the connection.

IMPORTANT! **It is the responsibility of the machinery manufacturer to choose the cross-sections and the numbers of screws to be used for fastening, once the loads on each attachment point have been determined.**

WARNING: If the connectors have an insufficient loading capacity, this can lead to malfunction of the components, with a consequently high risk of accidents occurring.

WARNING: Use all of the attachment points and only use materials of guaranteed origin with an adequate loading capacity. Using fewer attachment points or materials of unknown origin can lead to malfunctions at the connection points.

Tighten the threaded fasteners using a torque wrench.

Respect the tightening torque values provided below.

Make sure that the completed connection is in compliance with requirements.

Nominal thread diameter	Fastener strength class	
	8.8	10.9
M8	25 Nm	35 Nm
M10	50 Nm	70 Nm
M12	85 Nm	119 Nm
M14	135 Nm	190 Nm
M16	212 Nm	298 Nm
M18	290 Nm	402 Nm

Table 5.1: Tightening torque values

WARNING: Failure to respect the prescribed tightening torque values can lead to fastener malfunction and a high risk of accidents.

WARNING: The values provided in Table 5.1 are illustrative and correspond to 80% of material fatigue. Tightening torque values must be determined by means of arithmetical calculations.

5.3.2 CONNECTING THE PARTLY COMPLETED MACHINERY BY MEANS OF WELDING

The following standard product ranges, in the versions where the outer tube has a square cross-section, are suitable for welding onto the vehicle/equipment: DG, DM, DN, DS, DV, M, P, PR, S, ZB, DT, DH.

Heed the safety warnings in chapter 5.2 when performing the installation.

1. Position the partly completed machinery next to the trailer and line it up with the trailer attachment point.
2. Weld together.

IMPORTANT! **It is the responsibility of the machinery manufacturer to choose the cross-section, shape and length of the welded coupling joint to be used for fastening, once the loads on each attachment point have been determined.**

WARNING: the welded connections must be executed by welders in possession of the suitable qualifications in accordance with AWS and/or UNI EN ISO 9606 standards.

WARNING: Improper welding can lead to component malfunction. The configuration of the weld bead, the choice of welding process and the welding itself must be carried out by qualified welders. Failure to abide by the above shall result in a higher accident risk.

WARNING: Before welding, check that there will be sufficient operating space following welding. Otherwise, operation may be compromised and accidents may occur.

IMPORTANT! **Due to the heat input during welding and the temperature fluctuations caused by it, components in the immediate vicinity of the attachment point may be negatively affected. For example, hydraulic components and plastic parts may be damaged. These types of parts must be removed or covered before welding; otherwise, the effects of the heat must be monitored.**

WARNING: The proper operation and loading capacity of components exposed to heat may become compromised. Affected parts must be replaced before the equipment is put into operation. Failure to heed this warning may lead to accidents occurring.

Check that the connection between the parts has been executed in accordance with the relevant requirements.

WARNING: Any non-compliance with the predetermined values must be rectified immediately.

5.3.3 CONNECTING THE PARTLY COMPLETED MACHINERY BY MEANS OF MOUNTING TUBE OR MOUNTING PLATE AND PIN

The following standard product ranges, are suitable for connection by means of mounting tubes or mounting plates and pin: LT, LR, LF, ST, SF.

Heed the safety warnings in chapter 5.2 when performing the installation.

1. Attach the mounting tube/plate to the machine in accordance with paragraph 5.3.1 in the case of a counter-tube or counter-plate to be bolted.

2. Attach the mounting tube/plate to the machine in accordance with paragraph 5.3.2 in the case of a mounting tube or mounting plate welded to the machine.

3. Couple the mounting tube/plate of the support foot with the back tube/plate installed on the machine and proceed to the fixing by means of a pin.

6 USE AND OPERATION

When using the partly completed machinery, the operator must heed the recommendations in the assembly instructions. The manufacturer shall never be held liable for damages arising from improper handling, failure to observe our prescriptions, or improper handling by untrained personnel.

Before turning on the partly completed machinery, ensure that the machinery/equipment cannot start up or slip unexpectedly.

Only use the partly completed machinery on a flat surface with a sufficient loading capacity. Dips can lead to a loss of stability, causing the equipment to tip over.

Do not exceed the load limits of the partly completed machinery. Overloading may cause it to malfunction.

Move or tow the machinery/equipment only when the support devices are in a rest position (retracted).

Do not attempt to adjust the height when the load exceeds the actual lifting capacity of the partly completed machinery.

6.1 USING THE PARTLY COMPLETED MACHINERY

For the different versions of the partly completed machinery and their possible applications, a detailed description of use is always required in the use and maintenance manual for the machinery into which it is incorporated.

A missing and/or insufficient description of use may result in the malfunction of the partly completed machinery.

The height may be adjusted manually by using the crank or by means of a connection to a hydraulic system (applies only to hydraulic jacks).

For some versions of the partly completed machinery, height adjustment is initially determined by rotating the device or through a preliminary adjustment to lower the device by moving the relevant lockpin.

Do not place parts of the body or objects in the area of movement of the partly completed machinery or underneath it. Moving parts are an injury hazard.

Once you have performed the preliminary adjustment, you can reinsert the lockpin and secure it in place to prevent it from coming back out (applies only to 3-stage devices)

Partly completed machinery with swivelling wheel and lock pedal:

In the case of partly completed machinery equipped with a swivelling base wheel and a locking mechanism, first unlock the locking device by operating the release pedal; simultaneously, using the bracket to assist you, flip the wheel into the final position desired. Make sure that the wheel locking device is enabled, then begin adjusting the load. To return to the transport position, remove the load from the support, flip the wheel upwards again, then activate the lock pedal and secure the base wheel in the transport position. In some cases, locking when in the transport position occurs by means of a spring.

In the case of partly completed machinery equipped with a spring, the wheel may flip automatically upon unlocking. Make sure that all body parts are far from the most hazardous areas.

Mechanical height adjustment (applies to manually-operated jacks and adjusting spindles):

- Turn the crank to raise or lower the partly completed machinery.

When moving large loads, you can use the partly completed machinery with dual-speed reduction gears.

- The fast gear allows you to rapidly achieve the desired extension; however, this gear must only be used when no load is present.
- The slow gear allows you to adjust the load

Hydraulic height adjustment (applies to hydraulic jacks):

Height adjustment occurs by means of the hydraulic drive designed by the manufacturer of the final machinery.

Secure the vehicle/equipment so that it cannot make any unexpected movements.

Stay away from hazardous areas; persons and objects must remain far from the most hazardous areas of the partly completed machinery.

When connecting the hydraulic components, be sure to follow the relevant instructions and choose suitable connection lines.

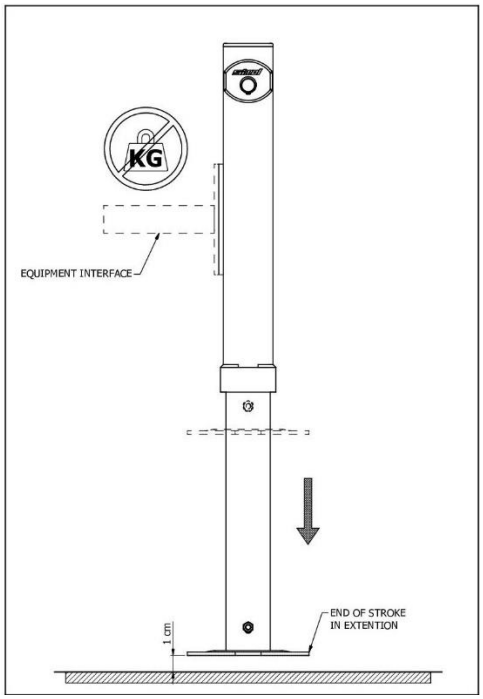
When connecting or removing hydraulic components, make sure that the hydraulic circuit is not under pressure!

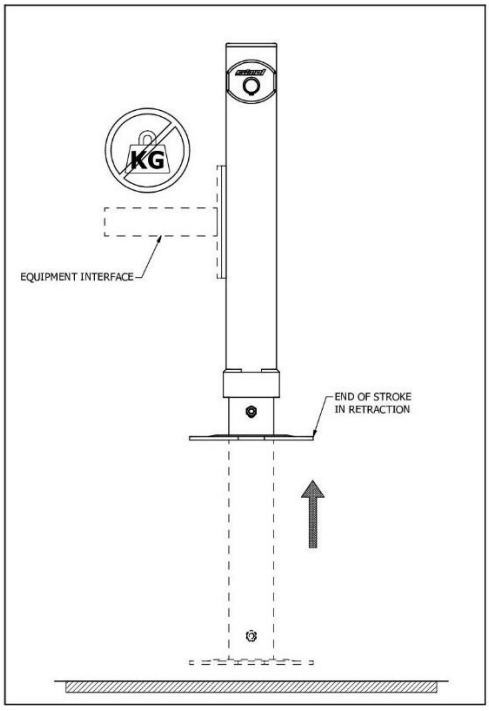
If hydraulic connections are operational, the coupling joints and coupling pins must be marked to prevent malfunctions.

When searching for leaks, use suitable auxiliary equipment, so as to prevent risk of injury.

Escaping liquids under high pressure (hydraulic oil) can penetrate the skin and cause serious injury. In the event of injury, see a doctor immediately.

Attention! After having connected the hydraulic components extend and retract the support at least 5 times without load before use it.





7 MAINTENANCE

7.1 GENERAL SAFETY REGULATION INFORMATION

Any protective devices removed or disabled in order to perform maintenance must be reinstalled and re-enabled following said maintenance.
Use only genuine replacement parts and tools suitable for their intended purposes and in good condition.

7.2 CLEANING

The partly completed machinery may be cleaned by personnel without specific technical skills, provided they are properly educated regarding the principal controls used to disconnect from power sources and the partly completed machinery's principal characteristics, so as to be able to avoid hazardous situations.

Always perform cleaning operations with the power disconnected. Wear the appropriate personal protective equipment (gloves, coveralls, anti-slip shoes).
Extended skin contact with oils or lubricants can cause irritation. Abide strictly by personal hygiene and work regulations.

GENERAL CLEANING OF THE PARTLY COMPLETED MACHINERY:

- Clean the covering of the partly completed machinery using soft rags lightly dampened with cleaning fluid.
- Remove traces of dust and other dirt from the partly completed machinery.
- Dust on the precision parts of the partly completed machinery hinders its proper operation. Clean the partly completed machinery before and after operation.
- Keep the work zone free of any material that might get in the way of workers' operations.
- Keep the surrounding areas clean; especially, keep them free of oil, grease or other material which could make the floor slippery.

IMPORTANT! **Deposits of dirt and dust compromise the proper operation of the partly completed machinery. Dirt must not be allowed to accumulate in cracks and gaps.**

7.3 ROUTINE MAINTENANCE

Maintenance of the partly completed machinery must be performed by highly specialised personnel with in-depth knowledge thereof.

IMPORTANT: This chapter is intended exclusively for the QUALIFIED TECHNICIAN (MAINTENANCE TECHNICIAN).

Extended skin contact with lubricant oils can cause irritation. Abide strictly by personal hygiene and work regulations.

IMPORTANT! **Workers are required to use the necessary personal protective equipment in order to safely maintain and clean the partly completed machinery.**

Remember the following requirements before performing any maintenance on the partly completed machinery or parts thereof:

- In the event that the partly completed machinery is malfunctioning or functioning poorly, stop its operation and place a warning sign on it, like the one shown here.
- Service the partly completed machinery when it is in rest position.
- Pay particular attention to the controls; replace them when damaged.
- All maintenance and repair operations are to be performed under the responsibility of a single individual appointed by the employer.
- During maintenance operations, the partly completed machinery must be completely disconnected from power sources.

ROUTINE MAINTENANCE CHECKS

On a daily basis, a visual check for general wear is to be performed on the partly completed machinery; this inspection must take place in order to prevent any breakages or malfunctions due to use conditions in relation to the environment, for example if it is used in an environment pervaded by steam or in an especially hot climate, etc. Recommended maintenance intervals are based on normal operating conditions; in particularly harsh or extreme conditions, different intervals will be required.

The device must be inspected by qualified personnel at the time of first use and at least once per year. These inspections must be suitably documented.
Before each use, the operator must check the partly completed machinery for damage or signs of wear. In particular, the operator must check that the connecting and the locking components are well-secured and in working order.
The pneumatic wheels must be filled with air periodically (at minimum once every 6 months).

DAILY CHECKS

- Make sure that all of the safety and protective devices are properly installed and in working order.
- Make sure that all of the controls on the partly completed machinery are working properly.

MONTHLY CHECKS:

- Check the state of wear of the components; if necessary, request that they be replaced; the deterioration of any component can be a symptom of poor operation.

BIANNUAL CHECKS:

- Perform an overall inspection of the principal parts of the partly completed machinery; check for material deterioration and wear.

ANNUAL CHECKS:

- Inspect the principal components of the partly completed machinery.
- Perform a check of the partly completed machinery's safety systems.
- Fully extend the partly completed machinery.
- Lubricate the partly completed machinery via the designated lubrication point.

Failure to follow the maintenance instructions can cause serious accidents and compromise use of the partly completed machinery.

IMPORTANT! **The models DV320 and DT490 are supplied without lubrication on the gears, which must be lubricated at the time of first use and with the top cover removed.**

The moving parts intended for regular use, like the bearings, wheels, gears, screw and nut, must be greased.
During normal operation, follow the lubrication schedule below:

Lubrication schedule	Before stopping	After stopping operation	After a maximum of 20 hours of operation
Greasing of bolts and pin joints	molybdenum disulfide grease		
Lubrication points			

8 PROBLEMS AND SOLUTIONS

IMPORTANT: For all extraordinary maintenance operations, contact specialised personnel.

IMPORTANT: Extended skin contact with grease can cause irritation. Abide strictly by personal hygiene and work regulations.

IMPORTANT: This chapter is intended exclusively for the QUALIFIED TECHNICIAN (MAINTENANCE TECHNICIAN).

IMPORTANT! **Workers are required to use the necessary personal protective equipment in order to perform maintenance operations on the partly completed machinery in complete safety.**

Regularly scheduled maintenance operations are covered in the previous chapter; if problems should arise, please contact **Simol S.p.A.**

8.1 IDENTIFYING PROBLEMS

Problem / Non-Conformity	Cause of the Problem	Solution
The mechanical device for adjusting the height will not move.	The protective device has not been unlocked.	Unlock the locking device, heeding the safety warnings.
	Excessive load.	Change gears and check the static load (applies to versions with dual-speed reduction gears).
		Check and correct the static load (applies to single-gear versions).
	The adjustment system will not move due to dirt and corrosion.	Clean the adjustment system and lubricate according to the maintenance plan.
The hydraulic device for adjusting the height will not move.	Close the closure valve (if there is one).	Open the closure valve and try again.
	The hydraulic pressure cannot be maintained.	Check the level of the hydraulic oil and top it up based on the instructions for the use of the hydraulic system.
	The load is excessive.	Check and correct the static load.

9 DEMOLITION AND DISPOSAL OF THE PARTLY COMPLETED MACHINERY

9.1 DEMOLITION AND DISPOSAL

At the end of the partly completed machinery's life cycle, the company using it must dispose of it in accordance with the law in force; the lubricant fluids must first be drained and the various components subjected to general cleaning; the component parts of the equipment must subsequently be separated. Once the partly completed machinery has been dismantled, the different materials must be separated out in compliance with the regulations in force in the country where the equipment is to be disposed of. The equipment contains no components or hazardous substances which require special removal procedures.

IMPORTANT: It is necessary to use personal protective equipment when handling waste.
The waste resulting from the demolition of the equipment must be disposed of in a manner that respects the environment and does not pollute the soil, air or water. It must, in any event, be disposed of in accordance with the local laws in force. Remember that waste is defined is any substance or object that the owner discards or has the intention or the obligation to discard (Legislative Decree 152/2006). Waste resulting from the demolition of equipment is classifiable as special waste.
It is non-hazardous special waste which can be recovered, in accordance with Legislative Decree 152/2006. With regard to disposal, bear in mind that the materials of which the equipment is composed are non-hazardous in nature.

WARNING: During the disposal process, you must comply with the laws in force in the country in which the disposal is taking place. Store polluting materials such as oils and solvents in metal drums only. Consumable products: As regards the disposal of consumable products, abide by the following rules: Batteries: Batteries must be replaced by a technician qualified in the maintenance of electrical systems. Used batteries must not be disposed of together with ordinary municipal waste, but must be taken to special disposal centres. Reduction gear oils: Used oils, oil residues and objects soaked in oil must be disposed of at special collection points and not in municipal sewer systems.

9.2 INSTRUCTIONS FOR PROPER WASTE TREATMENT

The proper management of special waste calls for:

- storage in suitable areas, to prevent hazardous and non-hazardous waste from mixing
- making sure that the waste transport and disposal/recovery is performed by authorised hauliers and receivers

You may only transport your own waste to authorised collection centres if you are registered with the National Register of Environmental Managers.

9.3 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

With Legislative Decree 151 of 25 July 2005, the Italian government enacted the directives of the European Parliament on the disposal of Waste Electrical and Electronic Equipment (WEEE) (Directives 2002/95/EC and 2003/108/EC). The measures: In particular, the decree establishes measures and procedures for the purpose of:
a) Preventing the production of WEEE.
b) Promoting the reuse, recycling and other forms of recovery of WEEE, so as to reduce the quantity requiring disposal.
c) Improving the environmental performance of all operators involved in the life cycle of electrical and electronic equipment (producers, distributors, consumers and operators directly involved in the treatment of WEEE).
d) Reducing the use of hazardous substances in electrical and electronic equipment.
The decree provides for the restriction and elimination of certain substances present in WEEE; lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers are banned. The equipment has been designed and manufactured in compliance with this directive. Follow the instructions provided below: This symbol, showing a wheeled rubbish bin with an "X" through it, indicates the separate collection of electrical and electronic equipment. The user of this equipment can contact the collection centres set up by the municipality, can contact **Simol S.p.A.** directly, or can request collection by the seller, in order that the equipment be properly disposed of.