



USE AND MAINTENANCE MANUAL WITH SPARE PARTS



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1. Safety instructions and danger signs to be observed

Warning signs

Warning:



Safety prescriptions and rules to protect the driver and other persons in the area against the risk of injury or death.

Caution:



Special instructions to prevent damaging the vehicle. Failure to observe these instructions may lead to cancellation of the warranty.

NB:



Special instructions for better operation, control and adjustment procedures during functioning as well as the most correct maintenance procedures.

1.1. Introduction

These operating instructions form an integral part of this undercarriage. They must be kept within reach and accompany the undercarriage in the event that it is sold.

All the parts, data and illustrations contained in these operating instructions are subject to modifications based on technological developments and improvements. All rights reserved.

No update service is provided for these operating instructions.

All the information on the most recent developments can be obtained by contacting:

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All the drawings contained in this manual are only by way of illustration and may not

correspond to the components actually installed on the relative undercarriage. Other components not contemplated in this manual may also be installed on the undercarriage. Vice versa, components not found on this undercarriage may be mentioned in this manual. All the components and the relative functions are subject to modification.

1.2. General



This undercarriage has been constructed to the highest standards and is functionally safe. Nonetheless, the undercarriage may be a source of danger if you continue using it even when you suspect or find a malfunction or if it has been incorrectly repaired.

In these circumstances, there may be:

- **A risk of death and injury to the limbs**
- **A risk to the undercarriage and other structures or equipment, etc.**

Immediately stop the undercarriage if you suspect or find a fault that may jeopardize the safety of the operator, other persons in the vicinity, or structures and equipment, etc.



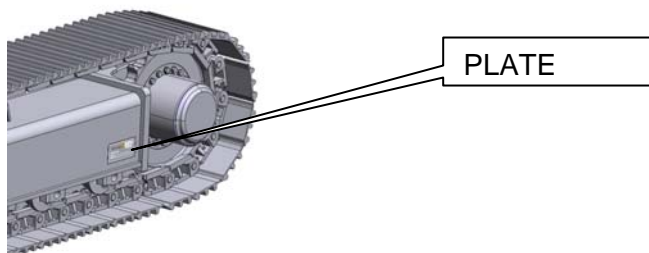
All the components have carefully been coupled. Fault-free operation and a long operating life can be obtained only if original spare parts are used.

1.2.1 Serial number

All the undercarriages or side frames have a drawing code and serial number.

The drawing code and the serial number are shown on the plate positioned as shown in Fig. 1 (unless otherwise specified by the customer).

These numbers must always be quoted when asking for information or filing complaints.



1.3. Instructions for safety in the workplace



1.3.1 Operators and equipment

Only qualified and authorised persons with adequate knowledge of the sector should be appointed to carry out maintenance and repair operations.

Before carrying out any work on an undercarriage, adopt appropriate preventive measures to ensure that it cannot start off on its own or unintentionally be started by third parties (for example, using wedges). In this connection, strictly follow all the starting and stopping procedures.

Wear protective clothing and safety devices for any type of work. Always wear a hardhat, safety shoes and protective gloves. Tight-fitting clothes help prevent accidents.

Once assembled, the complete machine is intended to be used by expert operators. Use by the public is not permitted.

Under no circumstances it is permitted to stand under the machine during its operation. If you need to access this area during maintenance operations, make sure that the machine has stopped and that the brakes are locked.

If you need an assistant to carry out a particular job, establish the respective responsibilities before starting the job so that there will not be any doubts relating to the safety aspects.



1.3.2 Tools and equipment

Tools, hoists, locking devices, jacks and other working tools must be in perfectly safe working order.

All the hoisting and fastening devices on the tracked undercarriage are exclusively designed for transporting the undercarriage unless otherwise specified.

Metal chips may detach while screwing or unscrewing fastening bolts and may cause serious injury. For this reason, always wear protective goggles when carrying out these procedures.

Equipment or components to be fitted or removed, or if the relative fitting position is changed, must be fastened using appropriate hoisting gear or support devices to prevent accidental movements, shifting or falling.

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Systems (e.g. tensioners) must be properly depressurised before opening them.

Hydraulic or mechanical parts with pre-loaded spring must be replaced as complete units in the event of damage. Further information in this regard is given in the relative descriptions of the components and/or in the fitting and removal instructions.

2. Warranty

The applicable warranty conditions are stipulated in the order confirmation.

THE WARRANTY RIGHTS ARE FORFEITED IN THE FOLLOWING CASES:

- Damage resulting from malfunctioning caused by incorrect use or incorrect operation.
- Repairs or modifications made by unqualified and unauthorised persons.
- Damage caused by accessories or spare parts used without prior approval from **TRACK ONE SRL**.

3. General operating and service instructions

3.1. Intended use

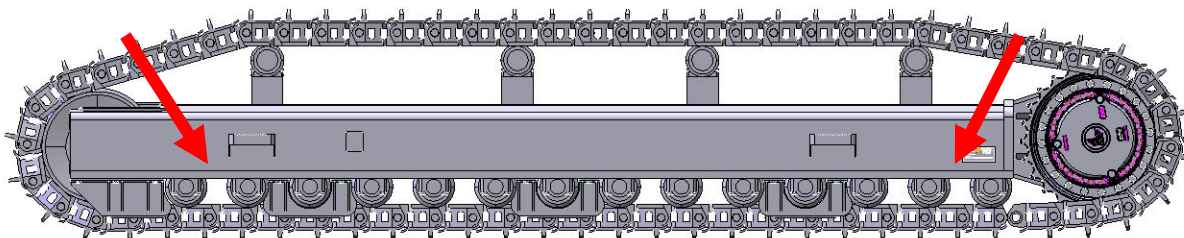
The undercarriage has been designed and assembled to be incorporated in a machine. Its function is to support and move the upper part of the machine (frame, cabin, equipment, etc.) . Uses different from those indicated are not permitted.



The undercarriage has been designed to carry a maximum weight of 35 tons. The undercarriage has been designed to be assembled to a machine tool in the following sectors of use: Pile drivers, milling machines, road pavers, cranes and machines for the building industry, crushers, gravel screens, punching machines, dredgers, cable laying machines, pipe laying machines, excavators, tracked loaders and tracked tractors

3.2. Handling and transport instructions

For proper hoisting of the undercarriage, use a bridge crane of adequate capacity inserting 4 eyebolts in the flange at the points indicated in the figure below.



Do not stand in direct line to where the force is applied and do not allow persons into areas where there are loads not adequately supported by mechanical means.

3.3. Fitting and removal instructions

The maintenance, repair and especially dismantling and demolition operations must be carried out by persons specialised in this activity and who have the necessary mechanical and electrical expertise to work in safe conditions.

Prepare a large working area free of obstructions and do not allow access to persons not involved in the above mentioned activities.

3.3.1 Fitting instructions

The tracked undercarriages are supplied by TRACK ONE as complete units.
The fitting procedures for all the components to be replaced are described in the respective chapters.

3.3.2 Removal instructions

Removal of individual units or components that have reached their limit of wear or are malfunctioning is described individually in the corresponding chapters.
It is recommended not to do any repair work on site but to replace defective components.
It is advisable to contact TRACK ONE in the event of significant damage or serious malfunctioning of the individual components.

3.3.3 Assembling the complete machine

During machine assembly it is essential to take into account the intended use and especially the maximum weight the undercarriage can support (see paragraph 3.1).

It is also essential to take into account the weight characteristics of the undercarriage (position of the centre of mass) and to ensure that the complete machine is stable in order to prevent it from overturning.

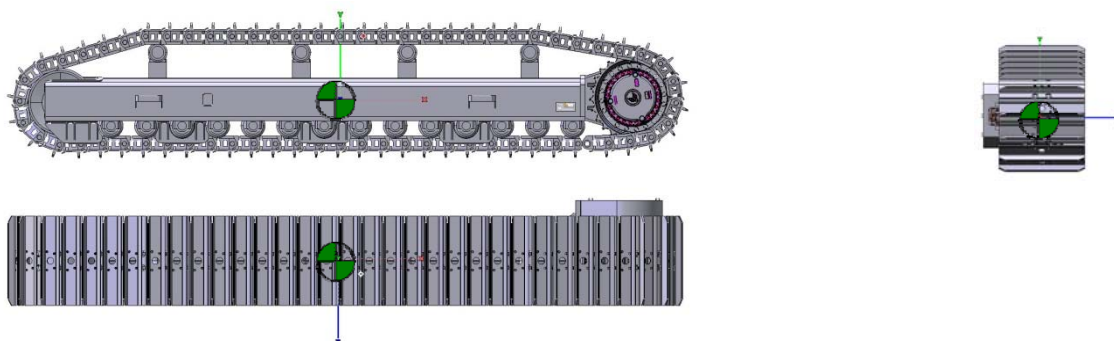


During assembly be particularly careful when connecting the hydraulic pipes to the motor, as inversion of the delivery and return connections will result in inversion of the forward movement controls.

3.3.4 Undercarriage weight characteristics

The total weight of the tracked undercarriage with the chains fitted is 8.75 tons each one.

The images below show the position of the undercarriage centre of mass. To prevent the complete machine from overturning, during assembly of the upper part on the undercarriage, take into account the maximum gradient of the ground on which it is to operate.



3.3.5 Table of screw tightening torques

These tables are not applicable for fastening the shoes on the chain (for these see paragraph 9.4.3).



For standard screws

	Nm			
	6.9	8.8	10.9	12.9
M 4	2.4	2.9	4.1	4.9
M 5	5.0	6.0	8.5	10.0
M 6	8.5	10.0	14.0	17.0
M 8	21.0	25.0	35.0	41.0
M 10	41.0	49.0	69.0	83.0
M 12	72.0	86.0	120.0	145.0
M 14	115.0	135.0	190.0	230.0
M 16	180.0	210.0	295.0	355.0
M 18	245.0	290.0	405.0	485.0
M 20	345.0	410.0	580.0	690.0
M 22	465.0	550.0	780.0	930.0
M 24	600.0	710.0	1,000.0	1,200.0
M 27	890.0	1,050.0	1,500.0	1,800.0
M 30	1,200.0	1,450.0	2,000.0	2,400.0
M 36			2,480.0	

For expansion screws

	Nm			
	6.9	8.8	10.9	12.9
M 4	1.3	1.6	2.2	2.7
M 5	2.8	3.3	4.6	5.5
M 6	4.7	5.5	8.0	9.5
M 8	12.0	14.0	20.0	24.0
M 10	25.0	29.0	41.0	50.0
M 12	44.0	52.0	74.0	88.0
M 14	71.0	84.0	120.0	140.0
M 16	115.0	135.0	190.0	225.0
M 18	155.0	180.0	255.0	305.0
M 20	225.0	265.0	375.0	450.0
M 22	310.0	365.0	520.0	620.0
M 24	390.0	460.0	650.0	780.0
M 27	600.0	700.0	990.0	1,200.0
M 30	800.0	950.0	1,350.0	1,600.0

For standard screws with thin threading

	Nm			
	6.9	8.8	10.9	12.9
M 8x1	23.0	27.0	38.0	45.0
M10x1.25	44.0	52.0	73.0	88.0
M12x1.25	80.0	95.0	135.0	160.0
M 12x1.5	76.0	90.0	125.0	150.0
M 14x1.5	125.0	150.0	210.0	250.0
M 16x1.5	190.0	225.0	315.0	380.0
M 18x1.5	275.0	325.0	460.0	550.0
M 20x1.5	385.0	460.0	640.0	770.0
M 22x1.5	520.0	610.0	860.0	1,050.0
M 24x2	650.0	780.0	1,100.0	1,300.0
M 27x2	970.0	1,150.0	1,600.0	1,950.0
M 30x2	1,350.0	1,600.0	2,250.0	2,700.0

For expansion screws with thin threading

	Nm			
	6.9	8.8	10.9	12.9
M 8x1	14.0	17.0	23.0	28.0
M10x1.25	27.0	33.0	46.0	55.0
M12x1.25	52.0	61.0	86.0	105.0
M 12x1.5	48.0	57.0	80.0	96.0
M 14x1.5	81.0	96.0	135.0	160.0
M 16x1.5	125.0	150.0	210.0	255.0
M 18x1.5	190.0	225.0	315.0	380.0
M 20x1.5	265.0	315.0	445.0	530.0
M 22x1.5	365.0	430.0	610.0	730.0
M 24x2	450.0	530.0	750.0	900.0
M 27x2	670.0	790.0	1,100.0	1,350.0
M 30x2	950.0	1,150.0	1,600.0	1,900.0

For standard screws with thin threading

	Nm	
M10x1	85.0	95.0
M12x1	145.0	160.0
M14x1.5	220.0	250.0
M16x1.5	340.0	380.0
M30x2	2,360.0	2,400.0

For UNF screws with thin threading

	Nm	
9/16"-20	110.0	120.0
1/2"-20	165.0	185.0
9/16"-18	240.0	270.0
5/8"-18	330.0	370.0
3/4"-14	575.0	650.0
7/8"-14	915.0	1,030.0
1"-14	1385.0	1560.0

3.4. Maintenance Instructions

Before carrying out any maintenance operation on the undercarriage, make sure that it is stationary and that the parking brakes are engaged.

3.4.1 Handling hydraulic substances and lubricants

When handling oil, grease or other chemical substances, respect the safety rules applicable to the products in question.

Adopt appropriate safety measures to prevent scalds or burns when the undercarriage has reached high temperatures (e.g. operating temperature), as the operating devices will have the same temperature.

Do not smoke when handling combustible liquids.

Be careful in the presence of fire or naked flames. Not only fuel but also other commonly used substances may have a low flash point and easily ignite.

Lubricants that are not to be reused must be disposed of in such a way as to have the lowest possible environmental impact.



3.4.2 Undercarriage conversions or modifications

Unauthorised conversions or modifications are not permitted for safety reasons. The nominal pressures of the connected air valves and the pressurised tanks may not be changed.



The seals on the units may not be removed.

3.4.3 Before starting

- Lubricate all the lubrication points
- Check all the oil levels and top up if necessary
- Check functioning of all the components repaired
- Visually inspect all the components.

3.4.4 Limits of wear of the undercarriage parts

Undercarriage wear is caused by movements, contact of the loads between the parts of the undercarriage and the abrasive action of the ground.

Other factors also contribute to wear, among which:

- The tracks moving on rocky uneven surfaces during operation
- Side load of the undercarriage during turns
- Long distances travelled in reverse
- Carelessly surmounting obstacles
- A track not perfectly tensioned based on the operating conditions
- Substantial build-up of debris on the entire undercarriage



The components of the undercarriage must be replaced with new parts if they are 100% worn. Otherwise the undercarriage might suddenly stop because of a malfunction. Therefore, regularly and carefully measure the degree of wear and replace the parts when necessary. The parts involved and the measuring instruments must be perfectly clean when making the measurements. If possible, sample the measurements at various points. The degree of wear is determined by the maximum and not the average value.

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3.4.5 Inspection intervals

COMPONENT	INTERVAL	INSPECTION N	TYPE OF MAINTENANCE
COMPLETE TRACKED UNDERCARRIAGE	Daily	visual	Amount of dirt in the undercarriage
			Overall condition of the undercarriage components
			Fastening elements of the frame sections and the undercarriage locking devices
	Monthly	visual	Fastening elements of the frame sections and the undercarriage locking devices – fastening of the ribbed shoes (point checks)
REDUCTION UNIT	Daily	visual	Reduction unit seals and any hydraulic couplings
	Every 200 – 250 hours of operation	check	Gearbox oil level
	every 300 – 2000 hours of operation; max 1 year	check	Gearbox oil change
	Monthly	check	Condition and wear of the driving wheel
TRACK TENSIONING WHEELS	Daily	visual	Overall condition of the springs and the tensioning system
	Weekly		Front guide wheel seal and tensioning system
			Track length retensioning (maximum tensioning length reached)
		check	Condition and wear of the front guide wheel and sliding blocks
LOWER ROLLERS	Daily	visual	Check for seepage
	Monthly	check	Condition and wear of the track rollers
UPPER ROLLERS / CHAIN GUIDE	Daily	visual	Check for seepage
	Monthly	check	Condition and wear of the load-bearing rollers
CHAINS WITH SHOES	Daily	visual	Check for seepage (only on tracked undercarriages lubricated with grease or oil)
			Track pre-tensioning – track bulging
	Monthly	check	Condition and wear on the sliding surfaces of the track links, bushings (outside diameter), and track elongation. Condition and wear of the ribs

The intervals may vary based on the frequency of use and the operating conditions.

4. Gearmotor

4.1. Technical features

Builder: BONFIGLIOLI TRASMITAL
Model: 718C
Transmission ratio: 1:87
Motor capacity: 250 - 116 cc

4.2. Operation and Functioning

4.2.1 General instructions for dangers

Dangerous situations may arise, in particular in the following circumstances:

- When the product is handled by insufficiently qualified persons
- Incorrect installation, operating and maintenance/repair procedures
- When the product is not used for its specific purpose

It is not permitted to modify the product in any way unless on prior approval.

La Motorizzazione Motorization has been designed exclusively for use on undercarriages.

4.2.2 Motorization design

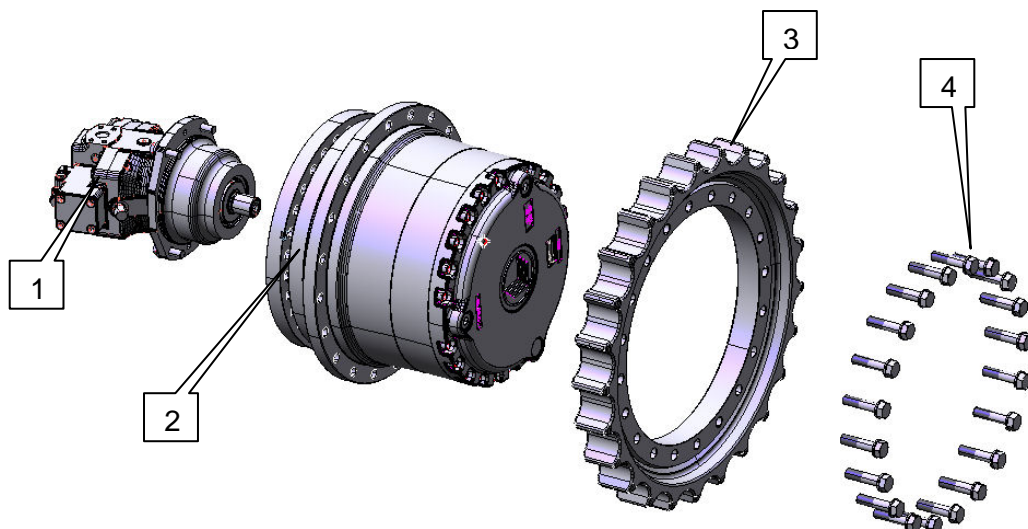
The tracked undercarriage has been designed as one complete unit.

The unit is composed of a high-efficiency, multi-stage, fully boxed planetary gear , a driving wheel and a hydraulic or electric motor.

The driving wheel is available in standard, HD or special versions with anti-accumulation compartments for heavy terrain conditions, and the surfaces in contact with the chain are hardened to reduce wear to a minimum.

Coupling to the transmission wheels is by means of bolts (4) in a material of minimum class 10.9 (unless otherwise specified by the customer). The bolt tightening torques are given in the attached tables.

Traction is transmitted to the track through the driving wheel (3) which bolted to the reduction unit (2) is in its turn driven by hydraulic or electric motors (1).



- 1 - Motor
- 2 - Reduction unit
- 3 - Driving wheel
- 4 - Bolt

4.2.3 Description of the transmission

The type of transmission used for this series of undercarriage has, depending on the design, a multi-stage planetary gear.

A particularity of this gear is its very compact design that allows considerable space saving.

The gear can be equipped with an integrated multidisc brake that also acts as parking brake. The brake is activated by a spring and hydraulically released by means of pressurised oil. The multidisc brake must necessarily be released before activating the hydraulic system of the transmission.



As a special design, the transmission can be supplied complete with a mechanical release device that allows separating the transmission from the hydraulic motor, for example, should you need to tow the machine following a hydraulic system fault.

4.2.4 Startup



- Check that the transmission is not dirty.
- Avoid pollution. Be careful not to spill lubricant during filling.

The transmission is supplied ready for installation **but** without any oil. Starting or using the transmission without oil will quickly destroy the device.

See the chapter "Filling the transmission with oil" for filling, top-up or checking the oil.

The transmission has been internally treated with a preservative agent that guarantees up to 6 months' protection against corrosion if stored in dry environmental conditions. This internal protective layer must not be removed at first starting.

When connecting the hydraulic lines for the parking brakes and the hydraulic motor, make sure that no dirt or foreign bodies penetrate the transmission or the hydraulic motor.



Risk of scalds and burns due to the high temperature of the transmission oil. The transmission guard may be boiling hot after long periods of operation. Wait for an adequate period of time for it to cool down before touching the surfaces.

4.3. Lubricants

4.3.1 Normal operating conditions (+10° to + 30°C)

Exclusively use lubricants that meet the viscosity requirements for transmission lubrication.

Observe the degree of viscosity marked on the data plate and the following requirements!

The data plate shows only the viscosity necessary (**ISO-VG 150 and ISO-VG 220**) for normal operating conditions from 10° to 30°C.

4.3.2 Heavy operating conditions (- 30° to + 50°C)

In heavy operating conditions, for example, with ambient temperatures between -30° and

+50°C, it is recommended to use transmission oils with an adequate viscosity or a 100% synthetic lubricant.

For lower operating temperatures, use an oil with a lower viscosity (**SAE 80W - 90**) and for higher temperatures, use an oil with a higher viscosity (**SAE 85W - 140**).

4.4. Compact transmission with traction motor

The positioning flange of the side frames and the motor gear are connected by means of appropriately sized coupling bolts. Torque transmission occurs by means of friction locks.

Remove the protective caps before connecting the hydraulic pipes. Be careful not to let dirt penetrate the delivery pipes during the fitting procedure.



All the preset parameters, such as:

- Hydraulic pressure limits
- Minimum and maximum flow rates

must be observed when using the undercarriage hydraulic system. Where necessary, contact the manufacturer for the permitted values.

4.5. Parking brake

The multidisc brake incorporated in the transmission is a parking brake that is kept permanently closed by thrust springs. The maintenance-free brake has been designed as a separate compact unit and must be removed from the transmission and replaced only as a complete unit. This configuration protects all the individual components, such as the discs, springs, sealing parts, etc. from outside influences. Any repair operation should be carried out exclusively by specialised workshops.

Filling with hydraulic oil both directly and through the parking brake valve by means of a pipe connected to the brake unit coupling causes the brake to open.



Be very careful, as filling with hydraulic oil when there is sufficient pressure in the feed circuit results in the brake releasing and the risk of the machine unexpectedly starting.



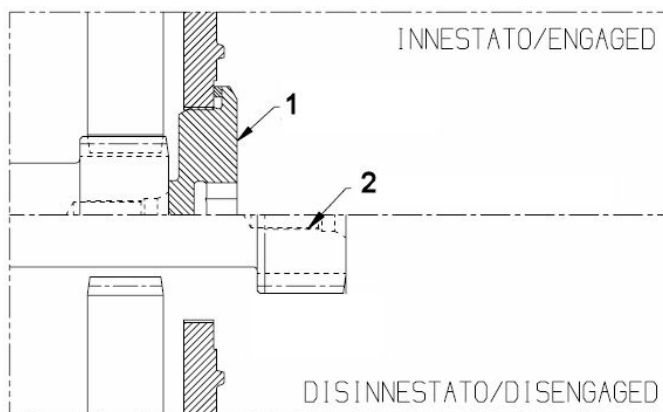
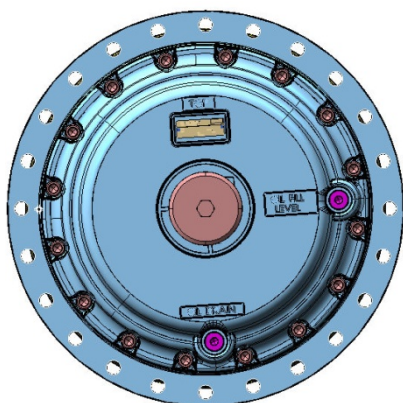
The pressure range within which the brakes can be bled must be observed. Only fully bled brakes allow wear-free and fault-free operation of the complete transmission unit.

It is advisable to use a separate hydraulic circuit to fill the brakes if there is no valve on the parking brake.

4.5.1 Parking brake release (OPTIONAL)

Undercarriages with a transmission unit equipped with a parking brake cannot be moved if the hydraulic system is not operational. For this reason, a release mechanism can be fitted on the undercarriage.

Thanks to this mechanism, the undercarriage can be towed also when the diesel or electric motors are off.



The release device is positioned on the outside of the transmission and is held in place by bolts (1).

To release the parking brake, remove the bolts and screw the toothed key.



Make sure that you put the release device back to its original position before returning to normal operation.



Be very careful, as manually releasing the brake poses a risk of the machine unexpectedly starting.

4.6. Transmission – Fitting and removal



Always use suitable means whenever you work on the transmission to make sure that the device cannot start off on its own or be activated by third parties.

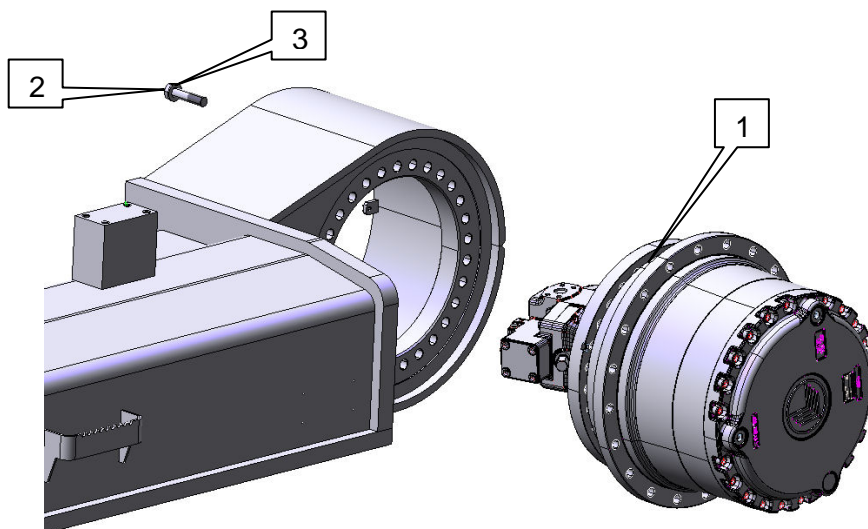
An undercarriage not connected to the track by means of the driving wheel is not protected against the risks of accidental movements caused by the transmission brake. This means that the undercarriage must be secured separately at the time of removing the transmission.



The track must be opened before fitting/removing the transmission (see the chapter "Track").

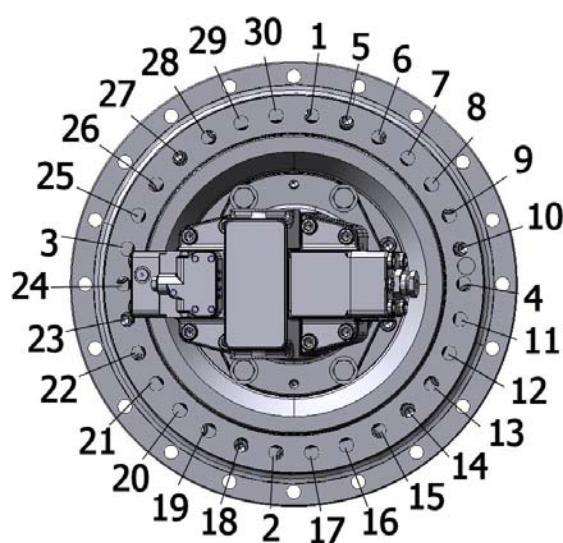
- **All the parts fitted must be clean and without any trace of grease.**

4.6.1 Connecting the frame to the transmission



The transmission (1) must carefully be inserted in the side frames in such a way as not to damage the flange surfaces. Check that the transmission is correctly fitted in its seat. Fasten the transmission in its seat fitting the screws (2) and the washers (3) in the frame and screw them in by hand. Again check that the transmission is correctly fitted in its seat .

Pretighten all the screws crosswise (see the illustration below).
Finally tighten the screws crosswise to the correct torque based on the screw sizes (see the table of tightening torques) .

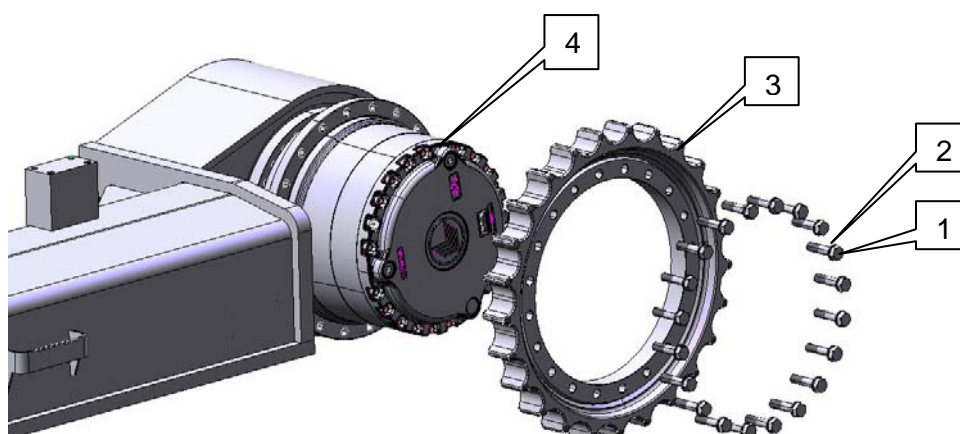




4.6.2 Additional instructions:

- Thoroughly clean all the centring and joining surfaces.
- Slightly lift the reduction unit in the flanged centring device of the undercarriage using a hoist.
- Completely fasten the reduction unit on the frame before removing the hoisting couplings.
- Do not apply axial forces during installation.
- Do not apply excessive force on the frame.
- The reduction unit must not be tilted.
- Be careful not to let dirt or foreign particles penetrate the hydraulic circuit.
- The multidisc parking brake is a transmission safety device. Be careful not to let dirt or foreign particles penetrate from the hydraulic brake coupling.
- Make sure that the brake coupling is perfectly sealed.

4.6.3 Connection between the driving wheel and the transmission



Thoroughly clean all the centring and joining surfaces. Lift the driving wheel using a hoist,

insert it in the transmission and tighten it on the transmission hub avoiding violent impact.

Fit the screws (1) and the washers (2) in the relative holes to fasten the driving wheel (3) and screw them into the threaded holes of the transmission (4) by hand. Pretighten all the screws in the correct order and then to the specified tightening torque based on the screw size using a torque wrench (see the table of tightening torques).

4.6.4 Removing the driving wheel



Loosen and remove the chain (see the chapter "Track").

Remove any dirt from the parts and the fastening elements. Use a hoist to prevent the driving wheel from dropping. Loosen the screws on the driving wheel crosswise and completely remove them.

Remove the driving wheel from its seat on the reduction unit by lightly hammering with a rubber mallet. If provided, fit the extraction bolts in the threaded holes and tighten them evenly. In the same way, remove the driving wheel from its seat on the transmission holding it suspended with a hoist.

4.6.5 Removing the transmission



Remove any dirt from the parts and the fastening elements. Use a hoist to prevent the transmission from dropping. Unscrew the bolts on the frame crosswise and completely remove them.

Separate the transmission from its seat on the frame by lightly hammering with a rubber mallet, then lift the transmission and slowly extract it from the frame and hold it suspended with a hoist.

- Collect any dripping/seeping oil in a previously prepared container
- For transport, use only devices approved for this purpose.

4.7. Motorization – Maintenance and inspection

4.7.1 General instructions

The complete transmission unit is made up of the following components:

- Motor
- Driving wheel
- Transmission or reduction unit
- Integrated brake (on request only)
- Release mechanism (on request only)

In the event of malfunctioning, always replace the complete component. Have any repairs carried out by specialised workshops only.

4.7.2 Filling, topping up and changing the the reduction unit oil



The reduction unit must be filled with fresh clean oil before starting it (see the lubricant specifications for the various types of oil).

See the table "Inspection Intervals" for the frequency of oil checking and changing.

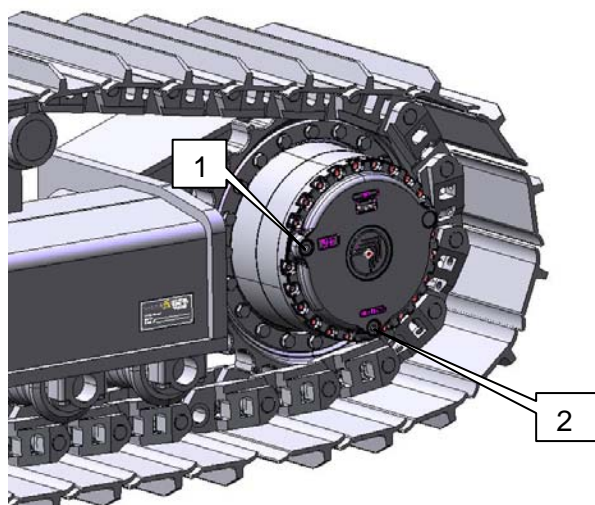
Position the undercarriage on a horizontal surface and in such a way that you can easily access the transmission (see the illustration).

4.7.3 Filling/topping up the the reduction unit oil:



Position the transmission in such a way that the oil drain plug (2) is vertical in the lowest position (at about 6 o'clock). The oil filler cap (1) should then be on the right- or the left-hand side of the transmission centre-line (at about 10 or 2 o'clock).

Fill with oil until the level reaches the filling hole. Fit a new washer on the cap and retighten it.



4.7.4 Draining the transmission oil:

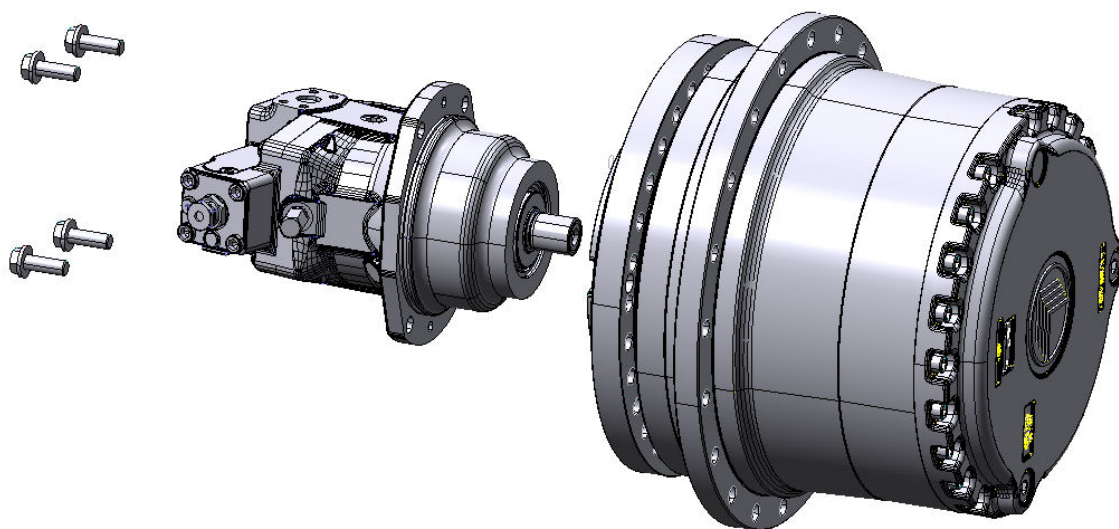


Risk of scalds and burns due to the high temperature of the transmission oil. Also the transmission guard may be boiling hot after long periods of operation. Always wear protective gloves and let the transmission cool down. Collect the drained oil in special containers and dispose of it in such a way as to have the lowest possible environmental impact.

Position an oil collection container underneath the transmission. Unscrew and remove the oil filler cap (1) and the drain plug (2). Drain out all the oil. Fit a new washer on the cap and retighten it.

4.8. Motor

The motor does not require maintenance and only needs to be visually inspected for any seepage.



4.8.1 Multidisc parking brake

The multidisc parking brake is integrated in the transmission unit on the motor side and is lubricated with the transmission oil. For this configuration, the brake does not require any maintenance and only needs to be checked at the time of general service of the complete transmission unit.



The brake circuit must be bled after any work on the unit or on the hydraulic couplings.

4.8.2 Disengagement mechanism

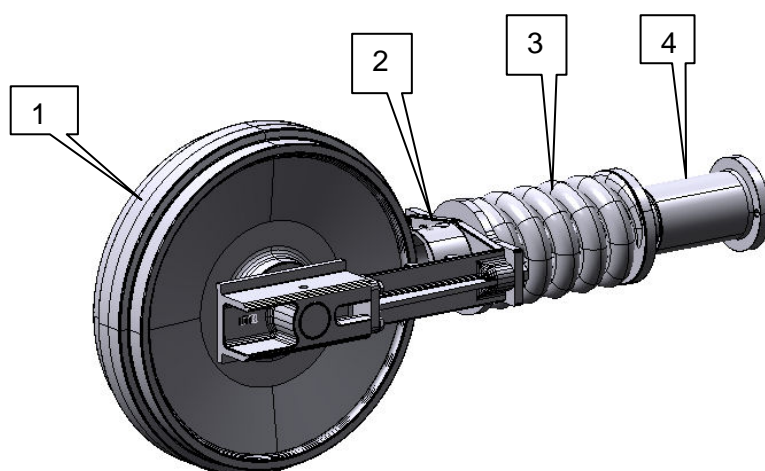
The disengagement mechanism is positioned on the rotor side (opposite side of the motor) and does not require any particular maintenance.

5. Track tensioning wheel unit

5.1. Track tensioning wheel unit – Functioning and description

The track tensioning wheel is composed of the following units:

- Detail 1 - Track tensioning wheel with sliding supports
- Detail 2 - Fork or cross member
- Detail 3 – Preloaded spring unit
- Detail 4 - Tensioner unit



The track tensioning wheel with sliding supports (1) is lubricated with oil for life. The fork or the cross member (2) acts as transmission element between the front guide wheel and the other components. The spring unit (3) acts as protection against overloads due to outside factors (e.g. dirt) for the complete undercarriage and is therefore an important undercarriage component.



THE SPRING UNIT IS PRELOADED AND HENCE DANGEROUS. BREAKAGE OR TAMPERING MAY BE DANGEROUS TO THE OPERATORS!

IMPORTANT! ANY KIND OF JOB ON THE PRELOADED SPRING UNIT MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY AND IN SPECIALISED WORKSHOPS THAT CAN GUARANTEE THE NECESSARY SAFETY MEASURES .

The tensioner unit (4) is used to correctly adjust the track tension; the cylinder is filled with grease.

The following is valid for all the spring units:

All the spring units must be bolted, fitted or secured on the fork of the front guide wheel for easy fitting and removal.

Type of track tensioning wheels

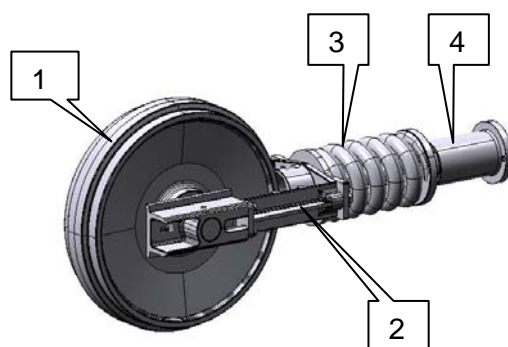
Type 1 Standard

Detail1 = Track tensioning wheel with supports

Detail2 = Fork or cross member

Detail3 = Preloaded spring unit

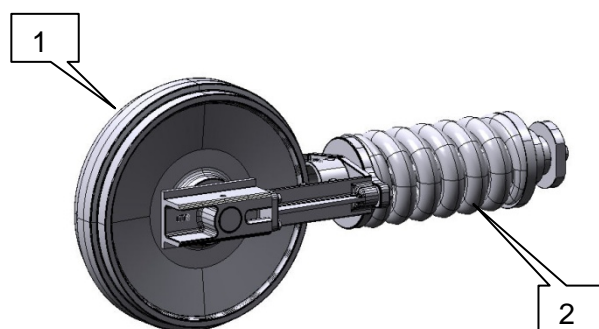
Detail4 = Tensioner unit



Type 2 Integrated tensioning units

Detail1 = Track tensioning wheel with supports

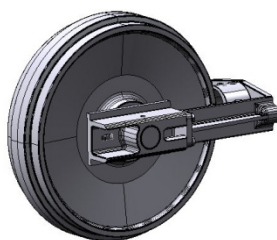
Detail2 = Compact tensioning unit
(cylinder integrated in the spring)



5.2. Track tensioning wheel with supports and fork (cross member)

The track tensioning unit performs the following functions:

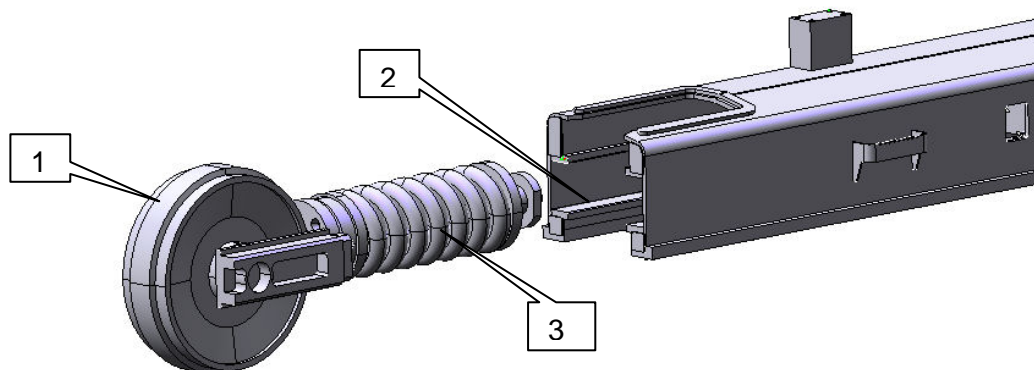
- Flexing action simultaneously guiding the track.
- Position adjustment by means of the sliding supports to adjust track pretensioning and to guide the track during springing actions.



Detail1 - Track tensioning wheel

Detail2 - Frame sliding guides

Detail3 - Wheel sliding supports



The track tensioning wheel (1) is fitted in the frame in the respective guides (2) and its sliding supports (3) allow it to move longitudinally.

The friction surfaces of the track tensioning wheel and the guides in the frame are greased to reduce wear to a minimum (operation carried out in the factory during initial assembly).



Other components can be fastened on the front guide wheel depending on the type of wheel.

5.3. Spring unit



The function of the spring is to protect the complete undercarriage against overloads. An overload may be caused by outside factors (e.g. build-up of dirt) which cause increased track tension. In these circumstances, the spring element reduces the load on all the components. The spring is perfectly operational as long as there is no excessive debris on it.

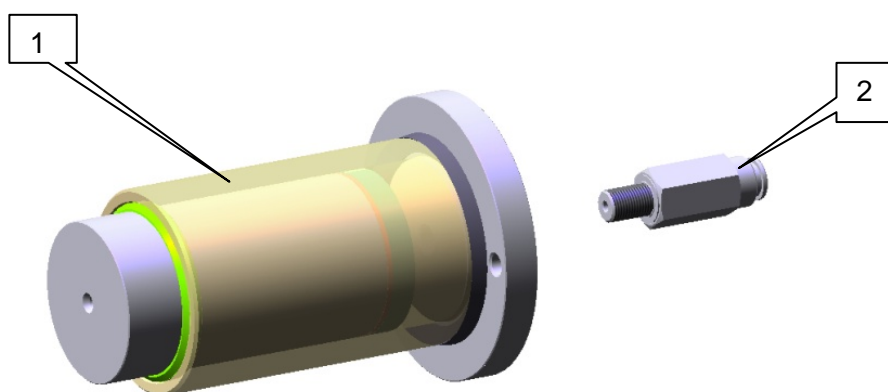
5.3.1 Types of spring units

Various spring unit configurations can be used depending on the specific application and the load requirements.

In compressed condition, the spring unit requires unloading to allow the tie-rod to protrude with respect to the support surface.

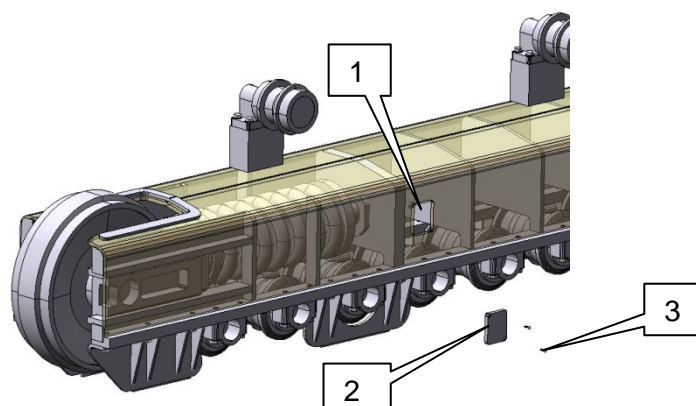
5.4. Tensioner unit

The track is held under the necessary tension by means of a tensioning cylinder. If the undercarriage components are worn or the terrain conditions change, the track tension needs to be adjusted, increasing or decreasing it (see the chapter "Setting track pretensioning").



The tensioning cylinder (1) is a standard design and operates with grease. To tension or slacken the track, the grease is applied through a special grease nipple (2) on the cylinder, or the grease level can be discharged by unscrewing the nipple by half a turn (see the illustration above).

The grease-operated tensioning unit is accessed through the holes positioned on the sides of the steel frame (1) (see the illustration below).



The access holes to the grease-operated tensioning unit can be protected with plates (2) fastened with screws (3).



Regularly check track wear to prevent damage to the track tensioner.

Retensioning is not permitted after the track has reached its wear limit, as this would result in excessive stress on the undercarriage components over the permitted limits and the safety conditions against breaking forces would no longer be given.

5.5. Fitting and removal

5.5.1 Fitting the guide wheel unit – General

Fitting/removal of the complete track tensioning wheel unit is different based on the unit configuration. The different configurations are described in the following paragraphs.



In any circumstances where you work on the track tensioning wheel unit, you need to follow the appropriate steps to ensure that the device cannot start off on its own or be started by third parties. An undercarriage not connected to the track by means of the driving wheel is not locked by the parking brake and could hence be subject to movements. The undercarriage must therefore be secured using other solutions.

Also bear in mind the risks you run when working on or with shock absorbing elements.

If a tensioning bar (tie-rod) is damaged or broken, there is a risk that a helical spring does not stay in the preload position but causes the front guide wheel to slip out of the frame following sudden slackening after the track has been removed.

This possible risk condition is detectable when the track stays under tension even after having discharged the pretensioning pressure from the grease-operated tensioner.



When working on track tensioners, , make sure that any overflow of oil or grease is collected and disposed of in such a way as to have the lowest possible environmental impact.

Before being able to fit or remove the guide wheel unit, you need to open the track (see the chapter “Track”).

Track tensioning wheel unit – Standard configuration

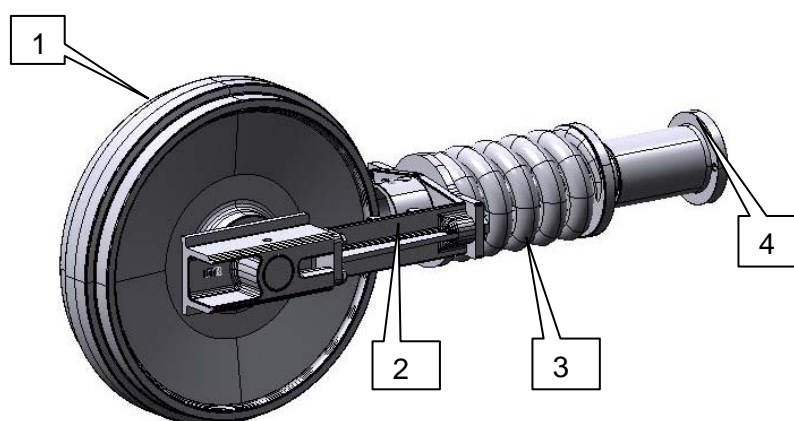
This unit is composed of:

Detail1 = Track tensioning wheel with supports

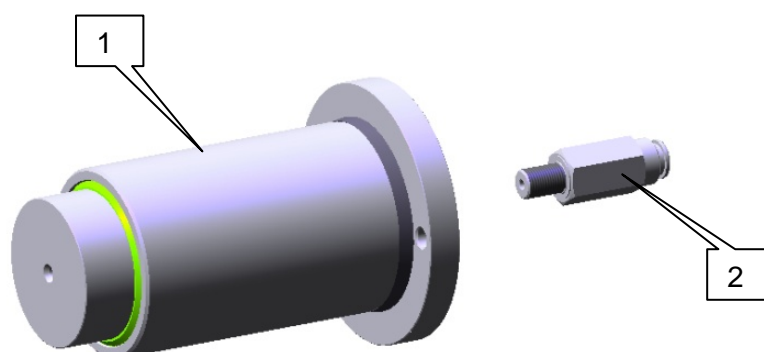
Detail2 = Fork or cross member

Detail3 = Preloaded spring unit

Detail4 = tensioner unit

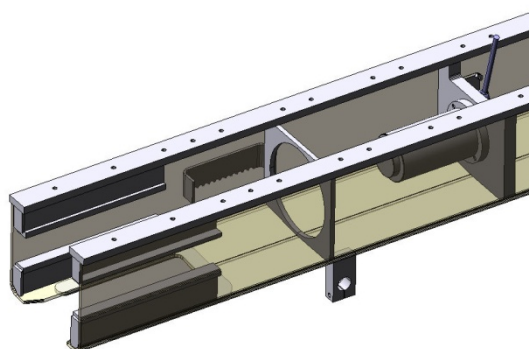


Push the piston (1) into the cylinder as far as it will go. Screw the grease nipple (2) with the relative washer into the cylinder flange and fully tighten it.

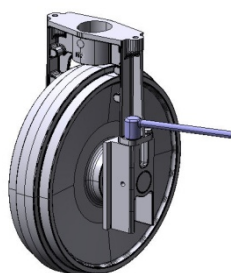


Fit the tensioner unit in the frame in such a way that the grease nipple protrudes from the

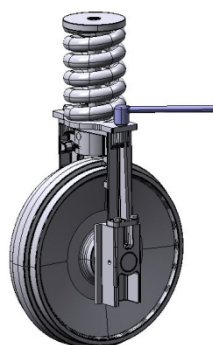
opposite hole in the support flange. Position the tensioner and fit it into place using retaining screws tightening them to the appropriate torque.



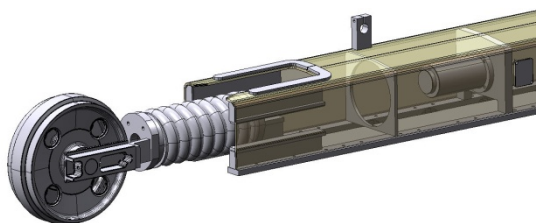
Position the fork or cross member on the sliding supports of the track tensioning wheel and fit it into place using bolts tightening them to the appropriate tightening torque.



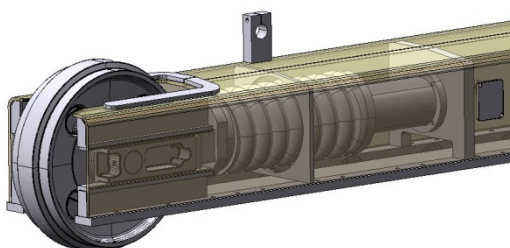
Position the spring unit on the fork or cross member and fit it into place using bolts tightening them to the appropriate tightening torque .



Fit the track tensioning wheel unit with the spring unit fitted on the greased guides of the frame using a special hoist.



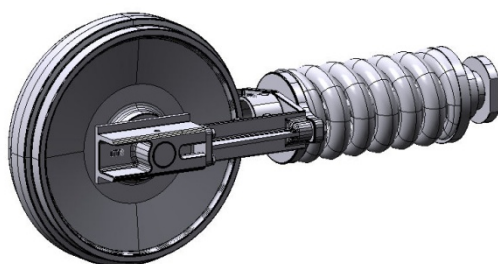
Make sure that the guide wheel unit is fully pushed in without colliding until the spring unit comes into contact with the track tensioner piston.



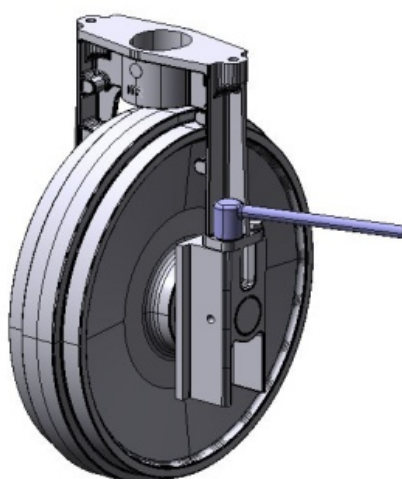
Type 2 Integrated tensioning units

Detail1 = Track tensioning wheel with supports

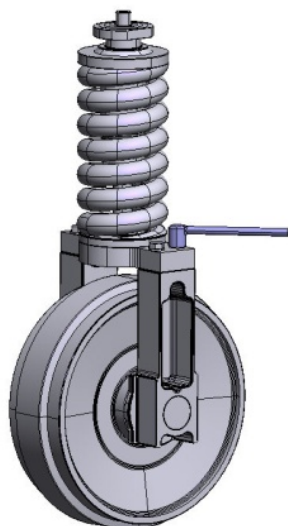
Detail2 = Compact tensioning unit
(cylinder integrated in the spring)



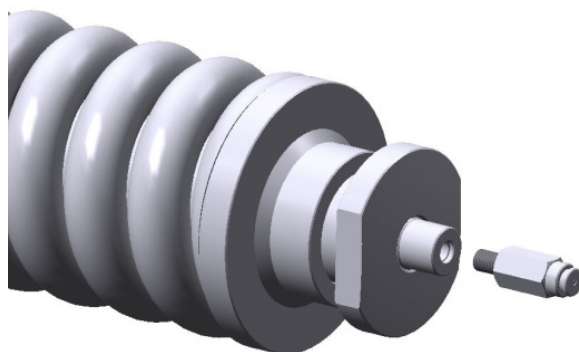
Position the fork or cross member on the sliding supports of the track tensioning wheel and fit it into place using screws tightening them to the appropriate torque.



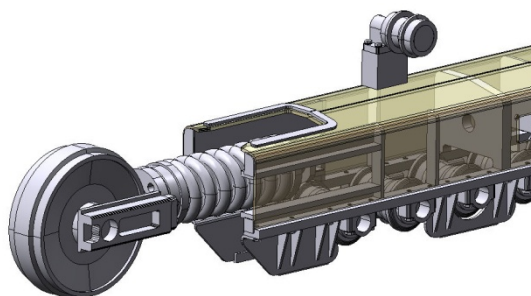
Screw the spring unit with the integrated cylinder onto the fork (cross member).
If the spring unit with integrated cylinder is designed with an integrated fork, position the complete unit on the sliding supports of the track tensioning wheel and fit it into place using screws tightening them to the appropriate torque.



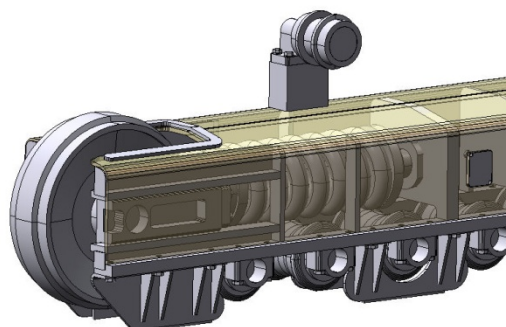
Push the piston into the cylinder as far as it will go.
Screw the grease nipple with the relative washer into the piston and fully tighten it.



Fit the track tensioning wheel unit with the hydraulic spring unit fitted on the greased guides of the frame using a special hoist.



Make sure that the guide wheel unit is fully pushed in without colliding until the spring unit comes into contact with the frame dividing panel and stays in position.



5.5.2 Removal

For removal work in reverse order to fitting.

6. Upper rollers /support guides

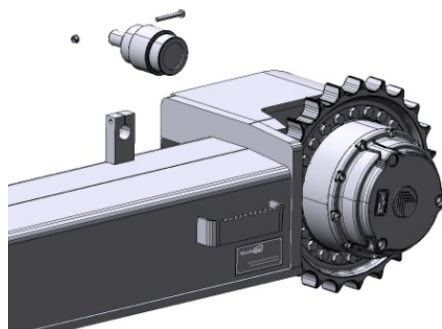
6.1. Upper rollers/support guides – Operation and functioning

6.1.1 General

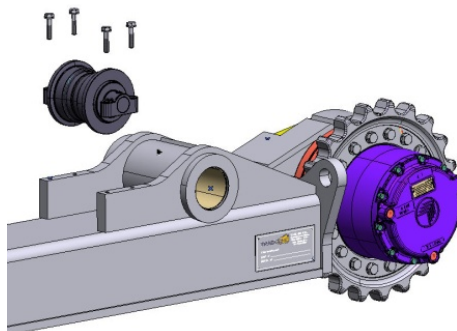
The load-bearing rollers/support guides are supplied as a complete unit. The complete unit must be replaced in the event of damage, repairs, or when the wear limits have been reached.

6.1.2 Types of upper rollers

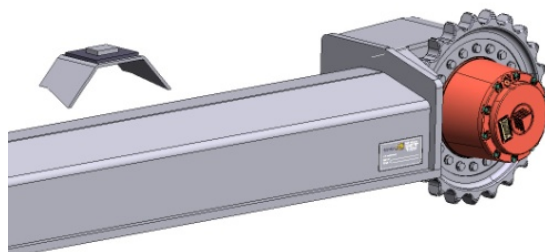
Upper rollers with cantilever shaft



Upper rollers with double support (in this case the lower rollers are identical)



The support guides are available in hard-wearing steel configurations or in some cases in special polyurethane.



6.1.3 Function

The load-bearing rollers perform the following functions:

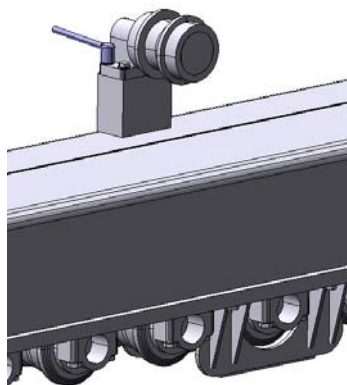
Guide the track in the upper section

Support the track in such a way as to minimise its bulging and prevent damage to the adjacent components.

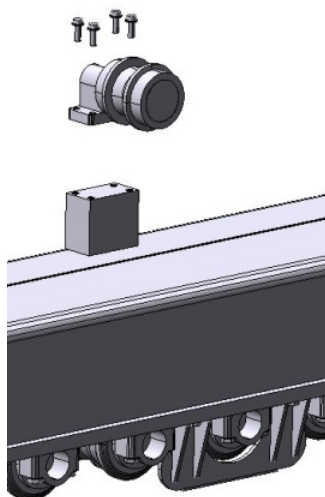
The sliding surface of the upper rollers has been hardened (not in the case of the support guides) to prevent wear. They mount special screw ring units that allow perfect seal and prevent dirt from penetrating, and they are permanently lubricated.

6.1.4 Upper rollers – Fitting and removal

Unscrew the bolts of the upper roller and remove it.



Fit the new roller using new bolts and reconnect the track.



NB:

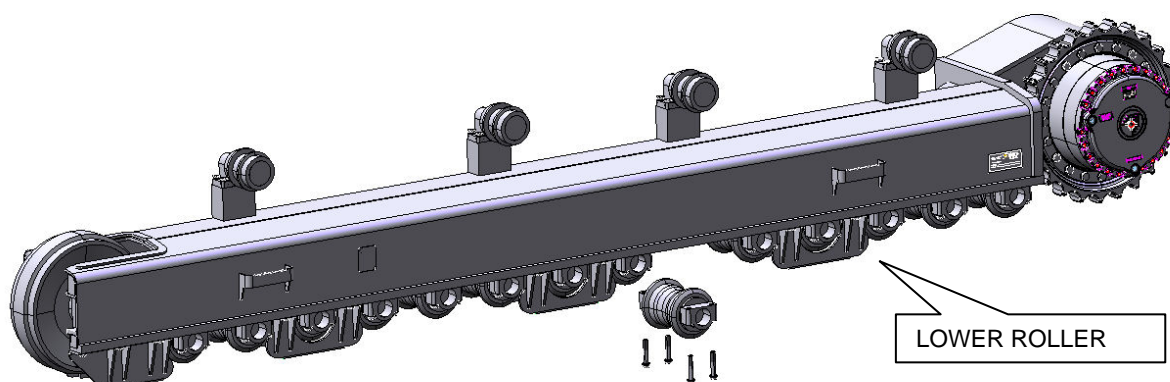
These fitting/removal instructions apply to the upper rollers with cantilever shaft.
The only difference with respect to fitting/removal of the upper rollers with double support (same design as the lower rollers) is the number and the position of the fastening bolts.

7. Lower rollers

7.1. Lower rollers – Operation and functioning

7.1.1 General

The lower rollers are supplied as a complete unit. The complete unit must be replaced in the event of damage, repairs, or when the wear limits have been reached.



7.1.2 Types of lower rollers

Lower roller with one edge



Lower roller with two edges



7.1.3 Function

The lower rollers perform the following functions:

- Guide the track in such a way that the dynamic forces of the track are transmitted to the ground.
- Recover the loads caused by the machine

The surface of the lower roller has been hardened to reduce wear.

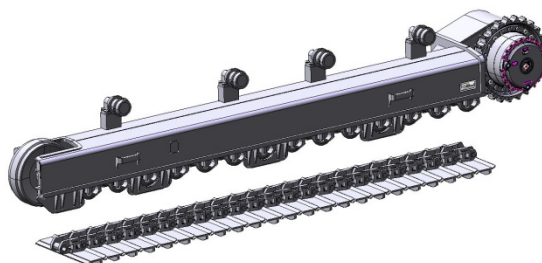
It has "screw" seals to prevent penetration of dirt and oil leaks

The track rollers are fitted as a complete unit at the installation points provided in the lower part of the frame (see the chapter "Track rollers – Fitting and Removal") and are immediately ready for use.

7.1.4 Lower rollers – Fitting and Removal

If necessary, slacken the track and remove the locking devices (see the chapter "Track").

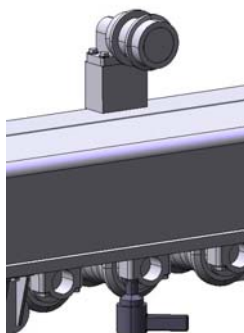
Lift the undercarriage using a suitable device and remove the dirt from all the components.



Unscrew the bolts of the defective track roller, remove and scrap it.

Should the track guide be fitted, it must first be removed by acting in the specific points before continuing.

Fit a new roller using new bolts and tighten it in its seat. Reconnect the track as described in the following chapter.

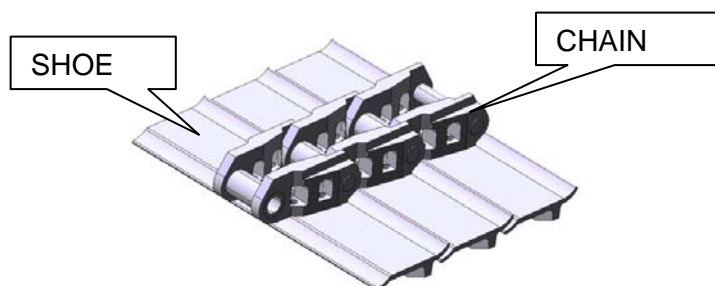


8. Chain with shoes

8.1. Chain with shoes – Function and description

8.1.1 Configuration of the chain with shoes

The shoes are bolted onto the chain and form a complete unit in compliance with the project specifications.



8.1.2 Chain configuration

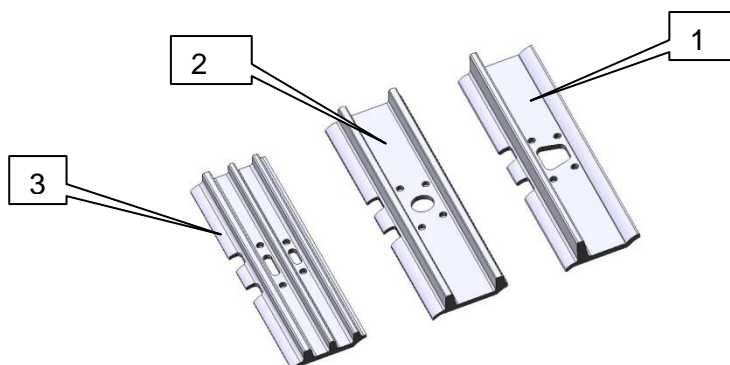
The chain that carries the shoes is composed of elements divided into right- and left-hand links.

These links together with the corresponding bushings and pins are pressed together so as to form one element. These elements are connected to each other to make up different lengths.

The individual elements of the track have been induction-hardened making them extremely hard-wearing.

8.2. Shoes – General description

The shoes are supplied in shapes and widths according to the requirements.



Basic type

- 1- Shoe with one rib
- 2- Shoe with two ribs
- 3- Shoe with three ribs

8.2.1 Function

The chains with shoes perform the following functions:

- Recover the loads caused by the machine
- Transmission of the motive output power

The sliding surface of the track has been hardened to reduce wear.

8.3. Chains with shoes – Fitting and removal

8.3.1 General



These instructions describe the correct method to secure the shoes to the chain. Incorrect fitting is the most common cause of detachment between the shoe and the track.



- Remove any form of materials or foreign bodies from the contact surfaces of the links, which may wedge in between the shoes and the bolts (e.g. paint, primer, rust, dirt, etc.). Brushing or light grinding can produce good results.
- Clean the contact surfaces and the seats of the track link nuts
- Apply a thin layer of oil (preferably) or grease to the threading and the contact surfaces under the bolt heads.



- Fitting or removing bolts with hardened end pieces by hammering poses a serious risk to the operators because of projecting chips of material. Adopt appropriate protective measures to prevent injury (e.g. wear protective goggles).

8.3.2 Fitting the shoes

It is often underestimated how important it is to correctly carry out the shoe fitting procedure. Incorrect fitting may cause bolt skimming and in the worst case damage the track links. It is recommended to **always use NEW bolts and nuts** when fitting the ribbed shoes. Used bolts may already be deformed and no longer guarantee an optimal tightening force.

Shoes

Remove any form of materials or foreign bodies from the contact surfaces of the links, which may wedge in between the shoes and the bolts (e.g. paint, primer, rust, dirt, etc.). Brushing or light grinding can produce good results.

Also clean the contact surfaces of the nut seats on the track links.

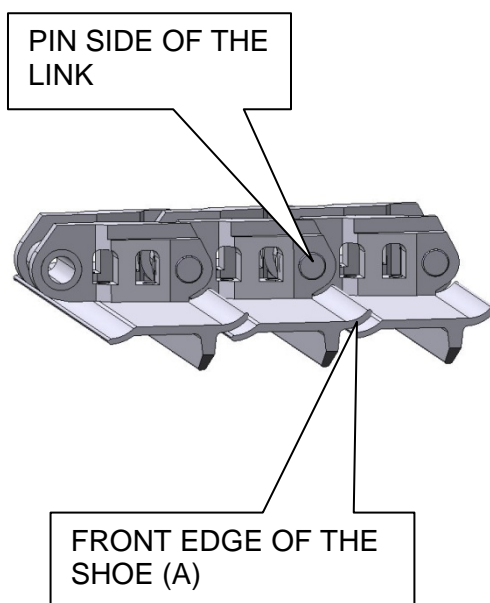
Position the shoes with the front edge (A) on the pin side of the track link.

Apply a thin layer of oil (preferably) or grease to the threading and the contact surfaces under the bolt heads.

Fit the bolts in the holes and tighten them in the nuts by several turns.

Make sure that the flat part of the nut rests on its seat in the link (the rounded side of the nut must face the sliding surface of the link).

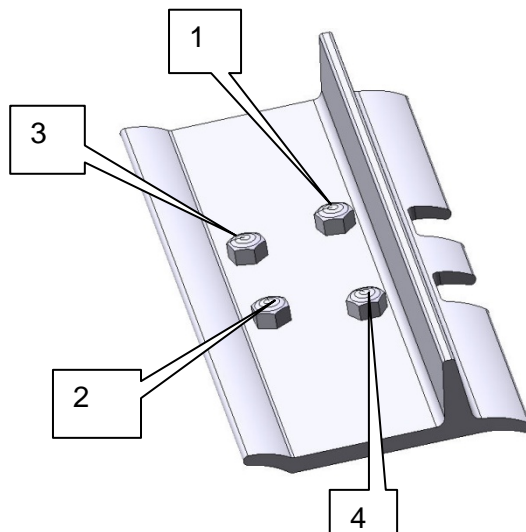
Fully tighten the bolts without applying particular force.



Select a tightening procedure (see "Tightening procedure " on the next page) and establish the torque necessary referring to the table given after these instructions. Tighten the bolts crosswise as shown in the figure.

Caution!

Do not apply an excessive tightening torque to the bolts !



8.3.3 Checking the torque / Retightening

Following normal stabilization, all the bolts should be retightened after about 50 hours of operation.



Further checks must be carried out at regular intervals based on the experience of the owner or operator or based on the manufacturer's recommendations.

8.4. Tightening procedure for track bolts

The tightening torque for each single bolt is obtained with two different tightening procedures: dynamometric procedure and angular method.

The angular method is used to as far as possible exclude the incidence of friction factors. This is why this method is preferable to the dynamometric tightening procedure.

The tightening torque levels are specified based on the ISO strength classes 11.9 and 12.9, and 13.9 for special bolts.

8.4.1 Dynamometric tightening procedure

Tighten the bolts to the torque value in the order indicated above. The torque level should be reached using a torque wrench and taking care to apply a uniform rotary movement. Sudden

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actions generate torque peaks producing incorrect results.
Stop tightening as soon as you reach the pre-established tightening torque.

8.4.2 Angular tightening procedure (preferable in on-site working conditions)

With this procedure, the bolts are first tightened crosswise, as already described, to a pre-established torque value indicated in the table. Then the bolts are pre-tightened by a further 120° (1/3 turn of the wrench). With this procedure, a certain plastic deformation of the bolts occurs in order to reach the maximum pre-tightening value for each single bolt.



In both cases, excessively tightening the bolts over the values specified may damage them beyond the yield point associated with an untolerated excessive plastic deformation with the consequent risk of premature easing of the bolt.

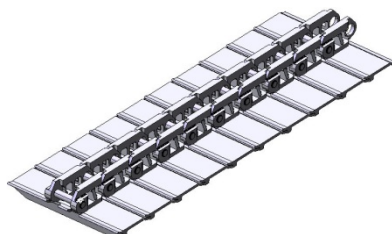
8.4.3 Tightening torques for track bolts [Nm]

[Nm] Bolt	Strength class 11.9		Strength class 12.9		Strength class 13.9	
	Dynamometric procedure	Angular tightening procedure	Dynamometric procedure	Angular tightening procedure	Dynamometric procedure	Angular tightening procedure
M10 x 1	90 ± 5	30 ± 2	100 ± 5	32 ± 2	105 ± 5	35 ± 2
M12 x 1	160 ± 10	50 ± 3	170 ± 10	55 ± 3	180 ± 10	60 ± 3
M14 x 1.5	240 ± 15	80 ± 5	260 ± 15	85 ± 5	270 ± 15	90 ± 5
M16 x 1.5	370 ± 20	180 ± 10	390 ± 20	190 ± 10	410 ± 20	200 ± 10
M18 x 1.5	540 ± 30	260 ± 15	570 ± 30	280 ± 15	600 ± 30	290 ± 15
M19 x 1.5	650 ± 35	320 ± 15	690 ± 35	340 ± 15	720 ± 35	360 ± 20
M20 x 1.5	750 ± 35	340 ± 15	800 ± 40	360 ± 20	830 ± 40	380 ± 20
M22 x 1.5	1000 ± 50	380 ± 20	1070 ± 50	400 ± 20	1120 ± 55	420 ± 20
M22 x 2					1080 ± 50	
M24 x 1.5	1320 ± 65	440 ± 20	1410 ± 70	470 ± 20	1470 ± 70	490 ± 25
M27 x 1.5	1920 ± 95	630 ± 30	2050 ± 100	670 ± 30	2140 ± 100	700 ± 35
M30 x 2	2580 ± 130	850 ± 40	2760 ± 140	910 ± 50	2870 ± 140	950 ± 50
M32 x 2	3100 ± 150	1000 ± 50	3310 ± 165	1070 ± 50	3450 ± 170	1110 ± 55
M36 x 2	4550 ± 230	2270 ± 110	4860 ± 245	2430 ± 120	5070 ± 250	2530 ± 125

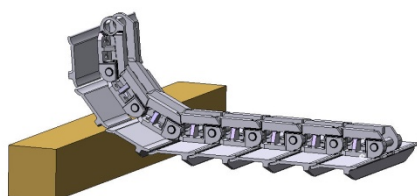
[Nm] Bolt	Strength class 11.9		Strength class 12.9		Strength class 13.9	
	Dynamometric procedure	Angular tightening procedure	Dynamometric procedure	Angular tightening procedure	Dynamometric procedure	Angular tightening procedure
7/16 – 20 UNF	115 ± 5	40 ± 2	125 ± 5	43 ± 2	130 ± 5	45 ± 2
½ - 20 UNF	180 ± 10	60 ± 3	190 ± 10	65 ± 3	200 ± 10	70 ± 3
9/16 – 18 UNF	260 ± 15	90 ± 5	275 ± 15	95 ± 5	290 ± 15	100 ± 5
5/8 – 18 UNF	360 ± 20	180 ± 10	385 ± 20	190 ± 10	400 ± 20	200 ± 10
¾ - 16 UNF	630 ± 30	320 ± 15	675 ± 35	340 ± 15	700 ± 35	360 ± 15
7/8 – 14 UNF	1010 ± 50	350 ± 15	1080 ± 55	370 ± 20	1130 ± 55	390 ± 20
1 -14 UNS	1540 ± 80	520 ± 30	1650 ± 80	560 ± 30	1720 ± 85	580 ± 30
1 1/8 - 12 UNF	2250 ± 110	760 ± 40	2400 ± 120	810 ± 40	2500 ± 125	850 ± 40

8.5. Fitting the chain with shoes (track)

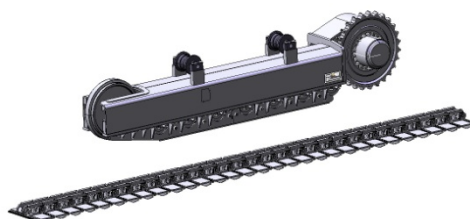
Spread out the chain with shoes so that it is as linear as possible.



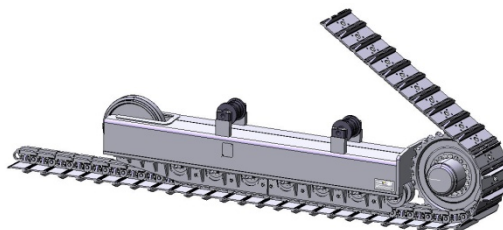
Position a wooden wedge under the end of the track (front guide wheel side, bushing side of the free track facing up).



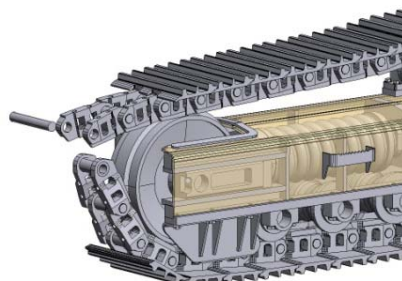
Position the assembled frame on the track. Important! Position the frame so that the forward drive of the machine is the same as the chain.



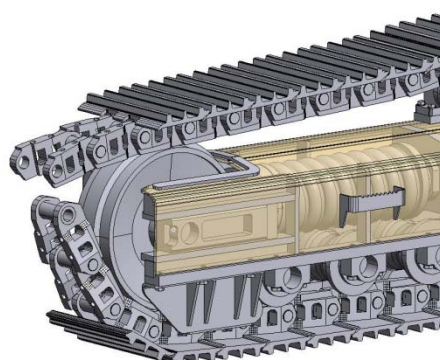
If the track is correctly aligned, pull it over the transmission unit in the direction of the front guide wheel above the side section.
Make sure that the chain bushings lock into the compartments of the driving wheel.



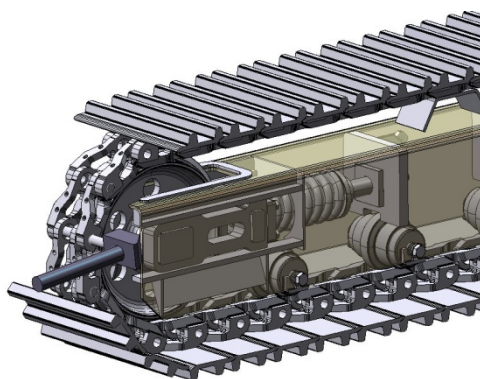
Position the ends of the track on the front track tensioning wheel.



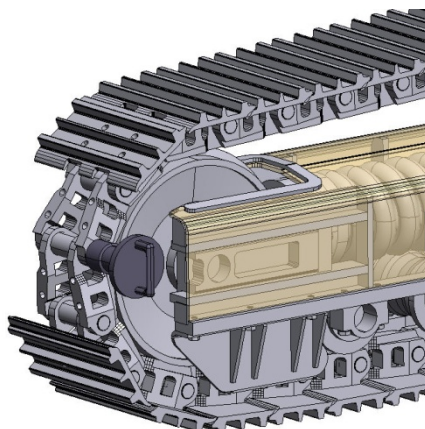
Grease two shims and fit them in the bores of the track links (also use sealing washers if necessary).



Align the track segments. Grease the tips of the master pins and fit them in the holes. Push them inside using a mallet if the tracks are small. Follow the safety instructions. Fitting and removing the pins with a mallet may cause dangerous projection of materials. Wear protective goggles.



For large tracks, fit the pins using a hydraulic pin driver.

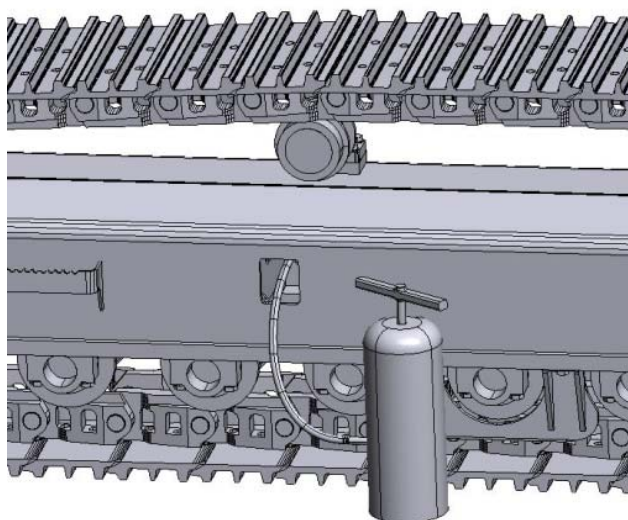


Track tensioning

Be careful to fit all the track components in the correct position.

You need to use a grease gun during tensioning. Fit the end connector of the pipe on the valve

of the grease-operated tensioner . Keep the grease gun active for the entire time necessary for the track to be correctly tensioned.

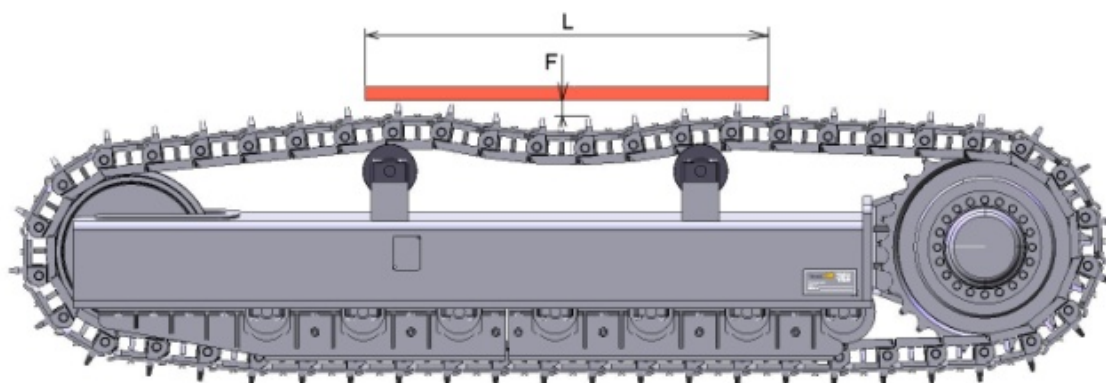


Important!

There must be a bulge of 2-3 cm for a length (L) of 1-1,5 m. This is applied linearly for a free length (L) smaller or greater than 1-1,5 m (at least 4 track elements).

Measure the bulge dimension using a ruler.

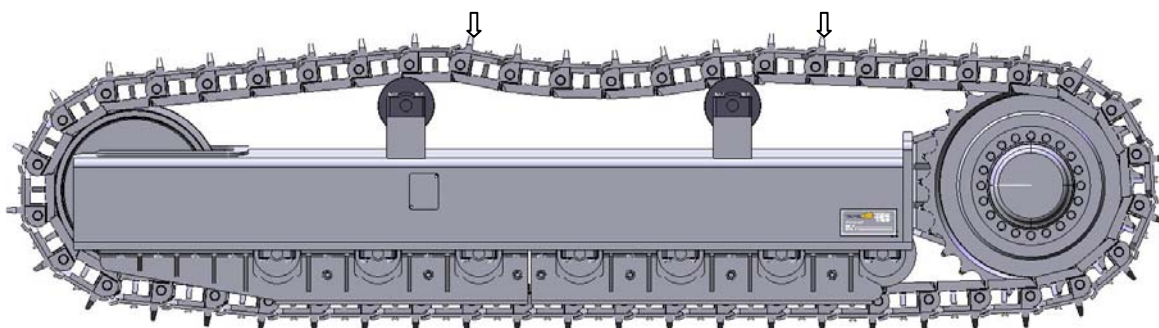
This is obtained by measuring the distance f from the edge of the shoe to the ruler (at the bulge centre-line).



Detach the connector at the end of the tensioning process. At this point, the undercarriage should be moved forward and backward for about 1 turn of the driving wheel. Check the position of the tracks on the front guide wheel and on the driving wheel.



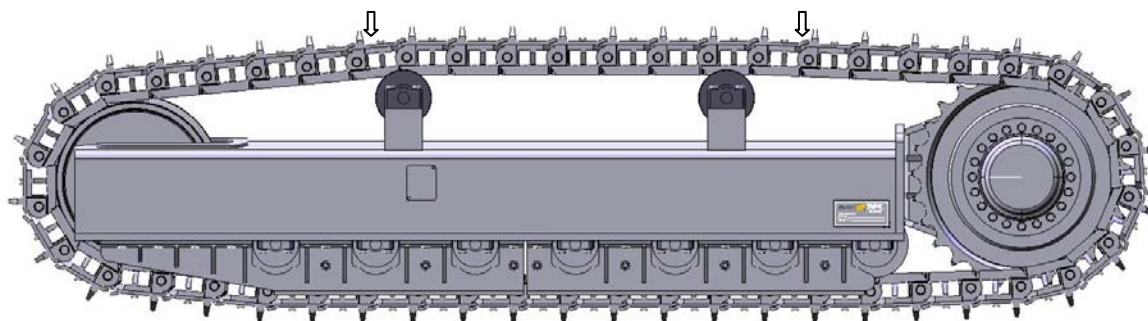
Too slack tracks may slip off the roller flanges, the driving wheel and the front guide wheel and considerably increase wear.



Too taut tracks increase wear on the front guide wheel and the bearings and also results in a

high degree of wear on the track bushings and pins.

It also requires greater motive power during driving with consequent increased fuel consumption.



Depending on the configuration, on some models there might not be any bulges in the upper section of the track. In this case, the track tension can be adjusted by measuring the pressure in the tensioning device or lifting the undercarriage (bulge measurement in the upper section – also in this case, the same rules as above for the distances L and f apply).

9. Sundry/special

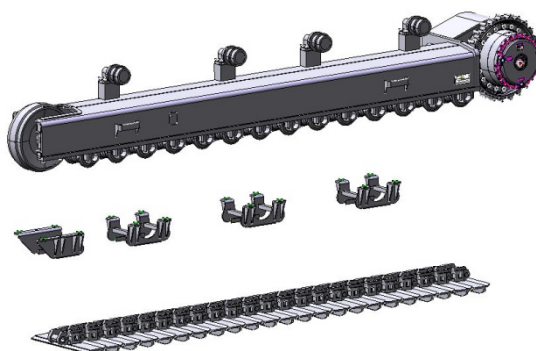
9.1. Track guide – Operation and functioning

9.1.1 General

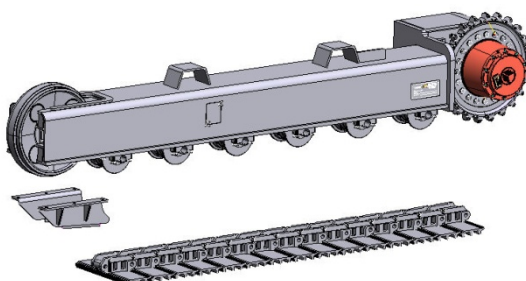
The track guides go into action each time track flexure occurs when the undercarriage needs to surmount an obstacle. This may cause the track to slip off the track roller flanges. There are various types of track guide. The main difference lies in welded and bolted configurations. There are also versions that cover the entire length of the undercarriage and others that are mounted in separate sections.

9.1.2 Types of track guide

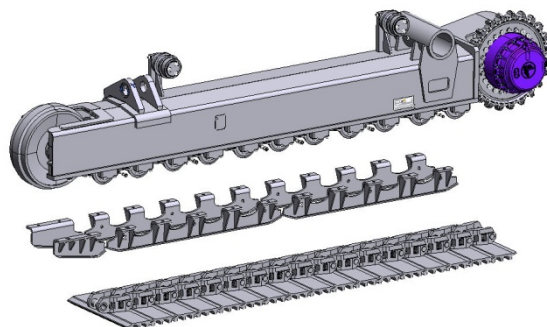
Track guide in the configuration with welded segments
(in this version, the undercarriage must be lifted for fitting or removal).



Track guide in the configuration with bolted segments
(in this version, the undercarriage does not need to be lifted for fitting or removal). Version without joining cross member ("lightweight configuration").



Track guide in the configuration bolted on the entire length of the side frame.
(in this version, the undercarriage does not need to be lifted for fitting or removal).



9.1.3 Function

The track guide acts as track "realigner" . When a slackening flexure occurs, the track slips out of the track roller seat. When the flexure disappears, the track guide ensures that the track and the rollers are correctly realigned.

9.1.4 Track guide – Fitting and removal

There are two main track guide configurations.

In the case of a **welded configuration**, the undercarriage must be lifted in order to fit the track guide, since it cannot be fitted on the side. After lifting the undercarriage, the track guide must be fastened to the undercarriage with bolts. For removal work in reverse order to fitting.

In the case of a **bolted configuration**, the track guide can be fitted without having to lift the undercarriage, since the guide is made up of several separate parts. In this case, one side of the track guide is bolted onto the undercarriage. The cross member is then connected to the first side of the track guide. The second side of the guide is bolted to the cross member. The second side is then bolted to the undercarriage. For removal work in reverse order to fitting.



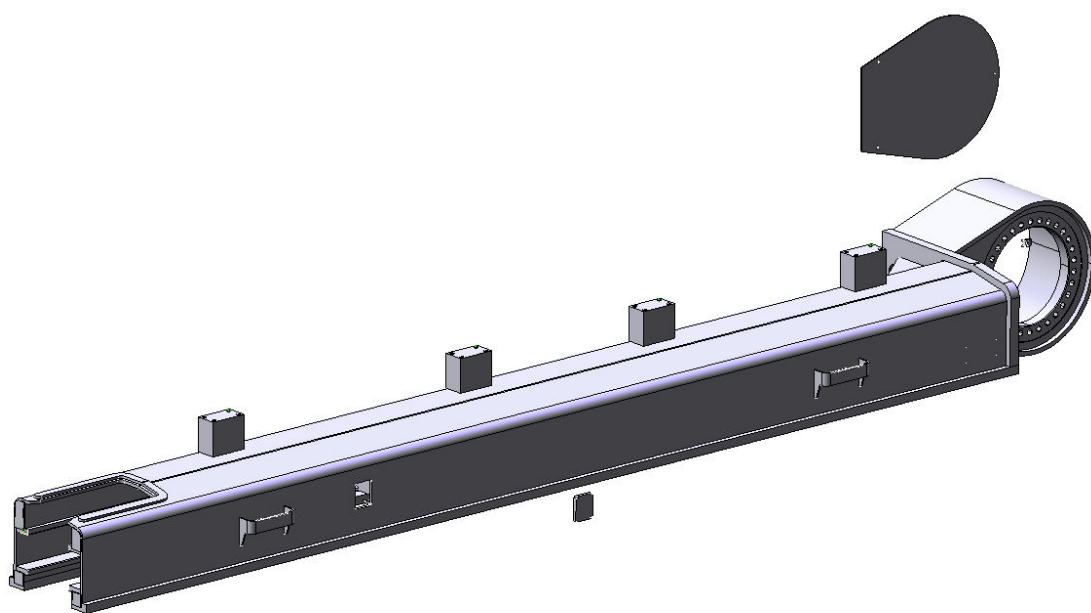
Make sure that there is no contact between the guide and the track roller body and that there is adequate clearance between the guide and the track (protrusion of the track pin).

9.2. Covers

9.2.1 General

The covers shown in the illustration below are provided with all the standard undercarriages (not all the covers are provided with all the undercarriages).

Additional covers not shown in the illustration may be provided with the undercarriages. The most common covers are those for the hydraulic motor or for the manual access hole to the grease nipple of the tensioning unit.



Be careful when handling the cover plates as they may be heavy depending on their size and hence be a source of injury.

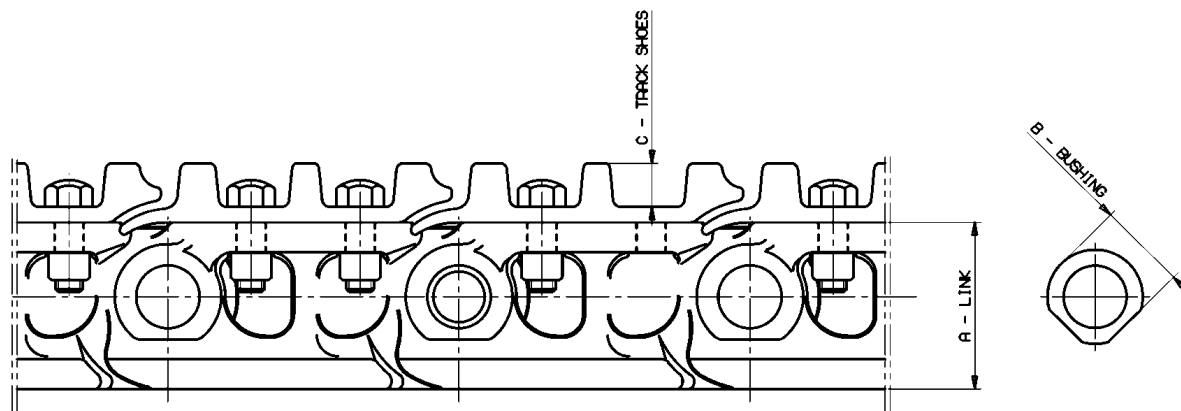
9.2.2 Function

The covers are made of sheet metal and have the following function:

- Close hydraulic units and lines
- Provide protection against dirt and contamination
- Protect persons against injury

10. WEAR LIMITS

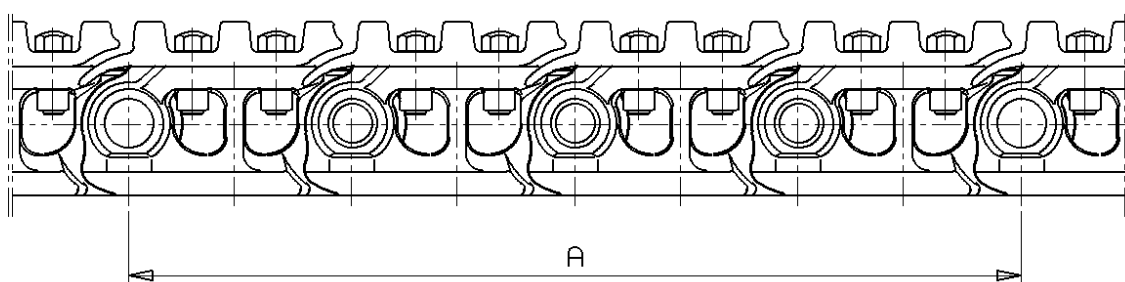
LINK - BUSHING - TRACK SHOES



T07400465900S

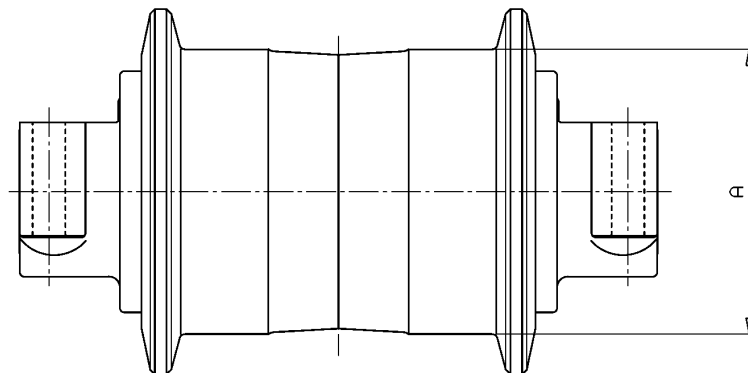
P/N	PITCH	NEW A	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
KL044.E1.11/15	215,9	132,8	131,2	129,6	128,1	126,5	124,9	123,3	121,7	120,2	118,6	117
P/N	PITCH	NEW B	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
KL044.E0.32		77,2	76,38	75,56	74,74	73,92	73,1	72,28	71,46	70,64	69,82	69
P/N	PITCH	NEW C	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
UV215C3A900T		71,5	66,8	62,2	57,7	53,2	48,6	44	39,4	34,6	29,8	25

PIN AND BUSHING PITCH INCREASE



P/N	PITCH	NEW A	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
T07400465900S	215,9	863,6	865,3	867,1	869	871	873,1	875,4	877,8	880,3	883,1	886

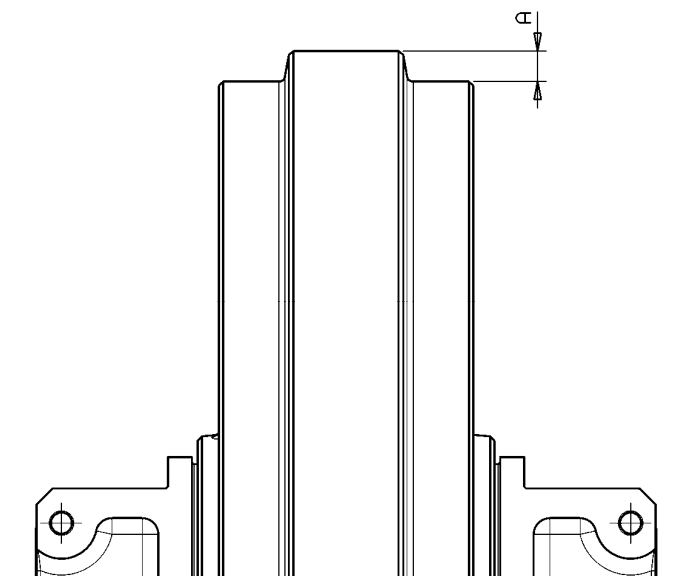
TRACK ROLLER



T070501

P/N	NEW A	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
T070501	200	197,7	195,4	193,1	190,8	188,5	186,2	183,9	181,6	179,3	177

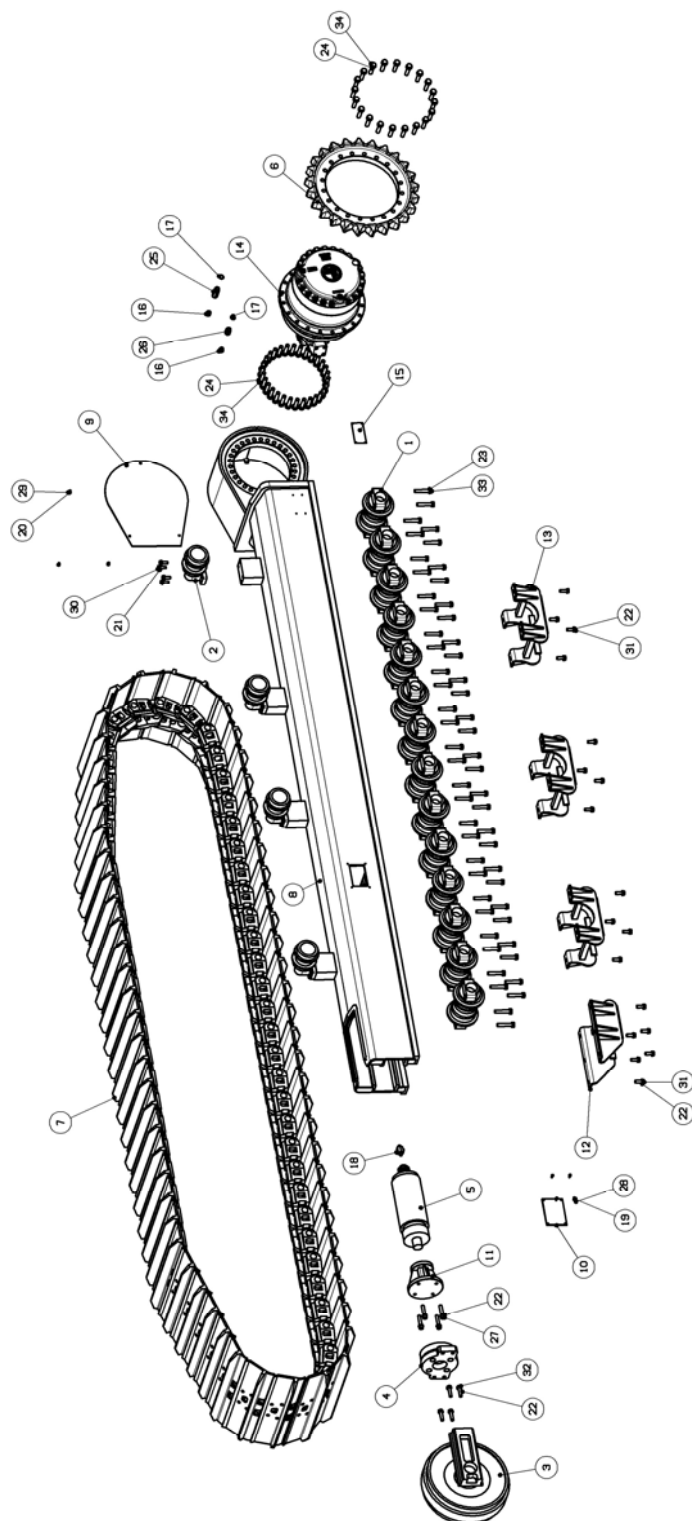
IDLER



T072402

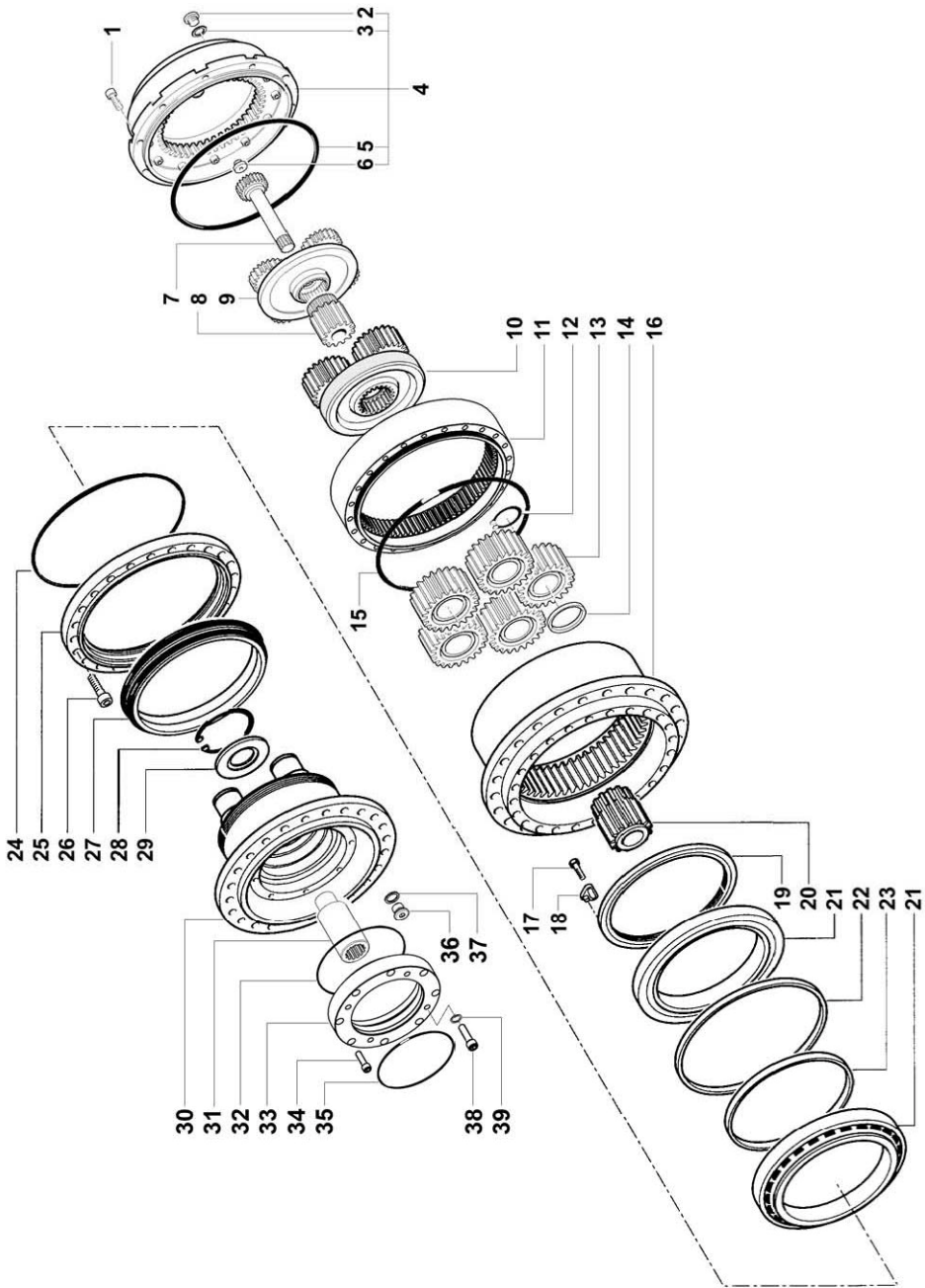
P/N	PITCH	NEW A	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
T072402		20	20,5	20,9	21,4	22	22,6	23,2	23,8	24,5	25,2	26

11. Spare parts



34	TVE2410010	BOLT M24x100	50
33	TVE2212010	BOLT M22x120	56
32	TVE2008010	BOLT M20x80	4
31	TVE2005510	BOLT M20x55	18
30	TVE1805010	BOLT M18x50	16
29	TVE1002088	BOLT M10x20	3
28	TVE0802588Z	BOLT M8x25	4
27	TVC2010088	BOLT M20x100	4
26	TSK081	SPACER M-F M30x2 - GAS 3/4"	1
25	TSK080	SPACER M-F M30x2 - GAS 3/4"	1
24	TAP4425	WASHER FOR BOLT M24	50
23	TAP3923	WASHER FOR BOLT M22	56
22	TAP3721	WASHER FOR BOLT M20	26
21	TAP3419	WASHER FOR BOLT M18	16
20	TAP2010	WASHER FOR BOLT M10	3
19	TAP1684	WASHER FOR BOLT M8	4
18	TIG16006	SAFETY VALVE	1
17	TID00150	WASHER	2
16	TID00093	PLUG 3/4" GAS	2
15	TAR001	LABEL	1
14	T718C087250SF	FINAL DRIVE 718C WITH MOTOR A6VE 250	1
13	T076016	ROCK GUARD	3
12	T076012	ROCK GUARD	1
11	T0750A05030	SPACER	1
10	T0750A05029	COVER FOR VALVE	1
9	T0750A05028	COVER FOR MOTOR	1
8	T0750A05001	SIDEFRAME LH	1
7	T07400465900S	TRACK CHAIN WITH SHOES	1
6	T073002	SPROCKET Z=25 PITCH 215.9	1
5	T072806	LIQUID SPRING GROUP	1
4	T072502	YOKE	1
3	T072402	IDLER WITH BRACKET	1
2	T071501	TOP ROLLER	4
1	T070501	TRACK ROLLER	14
Pos	Codice-Code	Descrizione - Description	Q. t

<div>  </div>	<div> Prodotto tipo / Product type: 7 18 C 3 H 12 F1 87 J14 0 LB1 </div>	<div> Compilatore / Signature: Cignani P. Data / Date 18/11/2010 Sostituisce il / Replacing Sostituito dal / Replaced by </div>	<div> Lista ricambi n°: Spare part list No.: 1.718C3087001 </div>
Rapporto totale / Total ratio: 1:87	Pred motore / Motor adaptor: HYDROMATIK A6VE 250 (DIN 5480 50x2 z24)	Codice di ordinazione prodotto / Product ordering code: 2T718C3087001	Rev: 0



Prodotto tipo / Product type: 7 18 C 3 H 12 F1 87 J14 0 LB1				Compilatore / Signature: Data / Date Sostituisce II / Replacing Sostituito dal / Replaced by	Cignani P. 18/11/2010	Lista ricambi n°: Spare part list No.: 1.718C3087001	Rev: 0
Ref	Code/Code	Qt.	Denominazione	Denomination	Beschreibung	Note	
1	720956019	21	VITE	SCREW	VIS	M16x160-8.8 UNI 5931	
2-3	6682501661	2	TAPPO SFIATO	OIL BREATHER PLUG	RENIPLARD	ENTLUEFTUNGSTOPFEN M30x2 (OR)	4* #
4	2T237179603	1	ASSEMBLE COPERCHIO	COVER ASSEMBLY	ENSEMBLE COUVERCLE	DECKEL MIT ZUBEHÖR	
5	715303377	1	O-RING	O-RING	O-RING	5,33x456,06	4* #
6	6663350310	1	PASTIGLIA	PAD	DISQUE DE FRICT.	ANLAUFSCHEIBE	4* #
7	6643012280	1	SOLARE	SUN GEAR	ENGREN CENTRAL	SONNENRAD	
8	6643040500	1	SOLARE	SUN GEAR	ENGREN CENTRAL	SONNENRAD	
9	2T235379770	1	ASSEMBLE 1° RIDUZIONE	1 st RED. ASSEMBLY	ENSEMBLE 1° REDUCT.	KOMPL.MONT. 1°STUFE	1.4,60
10	2T235379700	1	ASSEMBLE 2° RIDUZIONE	2 nd RED. ASSEMBLY	ENSEMBLE 2° REDUCT.	KOMPL.MONT. 2°STUFE	1.4,25
11	6641040200	1	ANELLO DENTATO	TOOTHED RING	ANNEAU DENTEE	ZAHNRANZ	278 m5,50 H121
12	718298763	5	ANELLO ELASTICO	CIRCLIP	ANNEAU ELASTIQUE	SICHERUNGSRING	UNI 7436-80
13	2T235979590	5	ASSEMBLE PLANETARIO	PLANETARY ASSEMBLY	PLAN.AVEC ACCES.	PLAN.MIT ZUBEHÖR	1.4,50
14	6662006740	5	DISTANZIALE	SPACER	ENTRETOISE	DISTANZSCHEIBE	
15	715303377	1	O-RING	O-RING	O-RING	5,33x456,06	#
16	6650010430	1	CORPO RIDUTTORE	GEARBOX HOUSING	CARTER REDUCTEUR	GETRIEBEGEHÄUSE	
17	720954010A	1	VITE	SCREW	VIS	SCHRAUBE	UNI 5931 M10x50-8.8
18	6660850530	1	PIASTRA ANTIROT.	BACK STOP	DISPOSITIF ANTIROT.	ANTIROT-SICHERUNG	
19	6660001160	1	GHIERA REGISTRO	NUT	ECROU	RUNDMUTTER	M380x2,5
20	6643040300	1	SOLARE	SUN GEAR	ENGREN CENTRAL	SONNENRAD	220 1.4,50 m6,50
21	712767014	2	CUSCINETTO	BEARING	ROULEMENT	LAGER	381X479X49
22	6662004630	1	DISTANZIALE	SPACER	ENTRETOISE	DISTANZSCHEIBE	
23	6662004640	1	DISTANZIALE	SPACER	ENTRETOISE	DISTANZSCHEIBE	
24	715303381A	1	O-RING	O-RING	O-RING	5,33x481,41	#
25	6660800410	1	ANELLO RITEGNO	COVER	COUVERCLE	DECKEL	
26	720956207	24	VITE	SCREW	VIS	SCHRAUBE	M16x60-8.8 UNI 5931
27	710317024	1	TENUTA FRONTALE	LIFETIME SEAL	JOINT LIFETIME	LIFETIME-DICHTUNG	Ø 192
28	718298119	1	ANELLO ELASTICO	CIRCLIP	ANNEAU ELASTIQUE	SICHERUNGSRING	UNI 7437-170
29	6660300411	1	SPINGH-DISCHI	DISCS RETAINER	POUSSE-RESSORT	FEDERDRUCKSCH	
30	6632593940	1	MOZZO FLANGIATO	HUB	MOYEU	NABE	
31	6648003730	1	GIUNTO MOTORE	COUPLING	ACCOUPLEMENT	MOTOR KUPPLUNG	
32	715303257	1	O-RING	O-RING	O-RING	3,53x266,29	#
33	6654510110	1	FLANGIA MOTORE	MOTOR ADAPTOR	BRIDE	MOTOR FLANSCH	
34	720956011A	6	VITE	SCREW	VIS	SCHRAUBE	UNI 5931 M16x80-8.8
35	715307376	1	O-RING	O-RING	O-RING	247.02X5.33 PK 2-376	#
36	722366113	2	TAPPO CHIUSO	PLUG	BOUCHON	STOPFEN	M30X2 DIN 908-St
37	718006018	2	RONDELLA	WASHER	RONDELLE	SCHEIBE	30x36x1,5

*Componenti inclusi nell'assieme indicato
*Components included in the indicated assembly
*Composants inclus dans le sous ensemble
*In der Baugruppe enthaltene Teile

Ricambi consigliati da tenere a magazzino
Recommended for stock
Pièces à stocker
Wir empfehlen diese Teile zu bevorzugen

Ref. / Item	Sostituisce	Replaces	Data / Date

Ref. / Item	Sostituisce	Replaces	Data / Date