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OPERATION & MAINTENANCE INSTRUCTIONS

Model **TRACK BRUSHING TOOL**

Type **BRV**

GB **Code :** **H110200_0118**

Société des Anciens Etablissements **L.GEISMAR**
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TRACK BRUSHING TOOL TYPE BRV **SUMMARY**	**H110200_0118**

Marking

STRIP OF PICTOGRAMS CODE **H100572**

STICKER **H36803**
GEISMAR
STICKER **H111862**


LIFTING POINT HOOK		**H83014**

Warnings

THE MANUFACTURER WILL ACCEPT NO LIABILITY IN THE FOLLOWING CASES

- Improper machine use, contrary to the instructions given in the operation and maintenance manual.
- Failure to comply with the periodical checking requirements stipulated by the manufacturer.
- Use by unauthorised persons and/or persons lacking the requisite professional skills.
- Consequences resulting from a misunderstanding of the operation and maintenance manual by the user.
- Failure to comply with the maintenance rules specified herein.
- Modifications or repairs not authorised by the manufacturer
- Use of spare parts whose quality and reliability do not match those of parts supplied by the manufacturer
- Use of lubricants, fuels and consumables different from those recommended in this maintenance manual.
- Exceptional or unforeseeable events.

USE OF THE OPERATION AND MAINTENANCE MANUAL

- The operation and maintenance manual is intended for heads of operations and staff in charge of servicing the machine as well as all workers having to carry out repairs. Their attention is drawn in particular to the chapters dealing with safety at work.
- The operation and maintenance manual provides the necessary information for correct use of the work equipment as intended by the manufacturer.
- The manual provides operation and maintenance instructions for the work equipment. It does not exempt the staff using the equipment from a proper training.
- The operation and maintenance manual is an integral part of the work equipment. It must be kept until the decommissioning of the machine.
- The operating and maintenance manual must be kept in a safe place inside the control station in order to always be at hand when needed.
- In case of loss or destruction of this manual, the user is bound to order a copy from the manufacturer.
- Users may ask the manufacturer to provide additional information and supplement the operation and maintenance manual in their possession with updates. Once provided, these items will become integral part of the operation and maintenance manual.
- If the work equipment is transferred, the user is requested to inform the manufacturer of the new owner's details.
- The user is required to deliver this operation and maintenance manual with the work equipment to the new owner.

In order to ensure permanent compliance with the legislation in force, the manufacturer reserves the right to make improvements to the work equipment and to the operating and maintenance manual without having to update previous editions.

Non contractual photographs illustrations

Dear customer,

Thank you for purchasing this equipment which has been manufactured by the **GEISMAR** group of companies.

We trust your confidence in us is rewarded and that you are completely satisfied with the equipment.

In order to guarantee the quality of its products and in accordance with its commitment to respect the Quality Assurance Procedures ISO 9001, the **GEISMAR** group tests all its products.

If the machine that you have just received is fitted with an hour meter which already displays a number of operating hours, this is due to all the tests and trials which have been carried out prior to its delivery.

Please pay detailed attention to the recommendations contained in this document.

To ensure this equipment continues to provide satisfaction care should be taken to use and maintain it in accordance with the instructions in this manual.

GEISMAR draws your attention to these essential points
• Respect the maintenance periods and use the lubricants recommended
• Use only original parts and do not make any modifications

Failure to do so may affect your warranty rights.

Furthermore, **modification of the machine without our written authorization** could result in the loss of conformity with the relevant standards.

The Group "**GEISMAR**" reminds you that accuracy in ordering of spare parts will enable prompt supply, and consequently ensure the productivity of your equipment.

Our equipment is designed and manufactured in accordance with the latest advanced techniques, and should provide you with the services that you expect.

We remain fully at your disposal.

Société des Anciens Établissements L. GEISMAR

Chapter 1 – Safety

1 – 1 Foreword

Regulations in force in the country of use take precedence over the guidelines for operation and safety listed herein. It is the responsibility of the person in charge of the equipment to check the accordance between the guidelines and the regulations.

The person in charge of safety on customer's side will supplement these instructions with any guideline he will consider applicable.

Compliance with the Safety Instructions below is necessary to ensure persons and goods' safety during equipment operations. Three pictogcylinders are used to call users' attention.

This symbol signals potentially hazardous conditions that might result in serious or fatal accidents if safety instructions are ignored.

This symbol points out to situations or events that might result in injury if safety instructions are ignored.

This symbol reminds users of safety rules or of hazardous situations that might occur when such rules are broken.

All persons involved in the operation, maintenance, storage or ownership of this equipment are required to read and comply with these Operation & Maintenance Instructions.

A user involved in an accident while infringing on these instructions risks being held liable with regard to the consequences of the accident

This Operation and Safety Instructions Manual is intended for users and persons in charge of the equipment and its maintenance. It might refer to various options of the machine and illustrations included in this handbook may differ from actual details and accessories of your equipment. Basic equipment features may be similar, but the GEISMAR Group reserves the right to make improvements to the equipment.

For additional information on your equipment or this handbook, please contact the GEISMAR Group.

When ordering spare parts, or requesting information or service, please provide equipment reference details, including equipment type, code and serial number.

This information can be found on the nameplate. The nameplate shall be kept in good condition.

1 – 2 Warning

Proper training, skills and tools are mandatory to use, maintain and repair correctly this work equipment. Before any use of the work equipment including its maintenance, it is obligatory to be familiar with its manual of instructions of use and maintenance, with its appendices and with safety regulations in force on the work site.

Strict compliance with the general instructions given by the person in charge of safety on the work site, especially if works are carried out without interruption of the traffic, is mandatory.

Technical documentation and the instructions will usefully come to supplement the knowledge acquired during training courses. Yet they can in no case replace a formal theory and practice training, given in a workmanlike manner.

If the owner does not feel able to ensure correctly the aforementioned training of his personnel, the GEISMAR Group is at its disposal for any assistance about the content of this training.

The training must cover the explanation with the various functions of the material, the instructions of use, maintenance and the safety regulations to be observed, as well as some practical exercises.

1 – 3 General safety instructions

The equipment shall be used under normal operating conditions and it shall be adequately maintained.

We recommend a familiarisation phase with equipment prior to its operational use.

Before starting using this equipment, make sure this can be done in optimal safety conditions.

If you have questions about equipment operation or work tasks, get additional information from qualified personnel.

Never use the equipment for ends other than those it is intended for.

To prevent accidents or injuries, It is compulsory to wear individual protection clothing and equipment in accordance with safety regulations of the work site (refer to chapter "**Markings**")

Keep away from moving parts until the equipment has stopped or reached a safe state.

All moving parts of this equipment entail risks of crushing or shearing

Equipment shall be cleaned on a regular basis, liquid or grease in excess shall be removed. All safety signs shall be kept clean and readable at all times; missing or illegible sign plates shall immediately be replaced.

STARTUP AND OPERATION/MAINTENANCE/REPAIRS.

Maintenance work must be performed by qualified personnel in control of the safety requirements applying to the operations to carry out.

Establish a progcylinder of inspection and record all maintenance operations.

Replace any damaged or worn element.

Never alter the equipment without study and authorization by the manufacturer.

DURING PHASES OF OPERATION

Get to know the work area and its features, restrict admission to personnel directly involved in operation only

Observe the general and particular conditions of safety applicable to the work area and keep a constant safety awareness during all phases of operation.

Get to know rescue plans in the event of incident or accident and safety instructions to follow during all operation phases.

Never disable safety or limiting devices

Check that nobody stands within operating range of the machine.

Do not park the machine on a track section with slope.

The track clearance profile must be large enough for the equipment

The lanes must be in a condition allowing progression of the equipment without risks.

The use of this machine is permitted only when visibility conditions allow for easy sight of the work and operation area

In the absence of contrary notice, this machine is not protected against lightning; it should not be operated under adverse weather conditions.

FOLLOWING A PROLONGED NON- USE OR DURING A PERIODIC CONTROL

Check the tightening and connections of the fasteners.

If a deformation or an abnormal wear is noted, the parts must be replaced.

HANDLING OF FLUIDS

The handling of fluids (fuels, coolants, battery fluids, cleaning fluids, oils, etc…) and their storage has to comply with the regulations in force.

Carefully read the product label (precautions of use and storage).

In any case, these fluids must be sorted by nature in tight containers and clearly marked.

Fluids can be harmful. Avoid any contact with skin or eyes. In case of splatter, rinse copiously the soiled areas with clean water without delay and visit a doctor.

1 – 4 Special safety instructions

1 – 4 – 1 Equipment with a combustion engine

Never start the combustion engine otherwise than with the device provided for this purpose.

Exhaust gases are harmful, avoid exposure to them and always start or use the machine with the combustion engine in a well-ventilated environment.

During fuel refill or fuel handling, the operator must make sure that he operates in optimal safety conditions.

In the event of spillage, clean the tank with dry clean cloths.

Always perform refill of fuel or maintenance liquids with the combustion engine switched off and cold and abide by the label warnings and safety precautions. These operations must be carried out far from any heat source; mobile phones must be switched off. A spark could trigger an explosion and cause grievous bodily harm or death. Fuel splatters or fuel leakage onto electrical components or hot surfaces can lead to fire.

Unless otherwise specified, do not carry out adjustments with the engine running

1 – 4 – 2 Equipment with electrical devices

Personnel intervening on a machine with electrical devices must be trained and authorized. Protection measures must be implemented to ensure optimal safety conditions for their work marking of the intervention; electric insulation of the equipment, posting safety precautions for works on or close to the machine, supply of individual protection equipment when needed….

OBSERVE FOLLOWING GUIDELINES

- Never bridge the terminals of the starter or of the batteries. This bypass might disable the emergency shutdown switch and damage electronics or electrical circuitry;
- Keep the switch box from water and humidity (might cause several accidents with harm to persons or material damages);
- Do not bypass open fuses, respect the current limitation;
- Periodically check the good state of battery contacts;

- Keep batteries away from all heat sources and sparks (danger of explosion or fire);
- Keep the polarity of the electrical circuit. An incorrect connection can seriously damage electronics or electrical circuitry and start a fire;
- When using jump-start cables, always connect the plus-cable (+) onto the plus terminal of the battery and the minus-cable (-) of the auxiliary source onto the engine block so as to avoid any explosion or fire risk;
- Safety devices (emergency switch, circuit breaker…) are positioned on the equipment. Take notice of their positions and check their functional status prior to any use of the equipment.

1 – 4 – 3 Equipment with hydraulic devices

Never deform or hit the high-pressure hydraulic pipes.

Carefully check all hydraulic pipes. Do not use bare hands to look for leaks; use instead a piece of wood or cardboard.

Replace damaged or deformed hydraulic pipes.

Make sure that the hydraulic circuit is free of any residual pressure before disconnecting hydraulic components (danger of whiplash injury or fluid splatters).

1 – 4 – 4 Lifting equipment

TESTS AND CONTROLS

The regulation in force stipulates checks and controls under load when the equipment is brought into service and periodical checks later on.

The persons in charge of intervening onto lifting equipment must be trained and authorized for this type of equipment. Prior to any use of the machine, they have to control that all checks have been carried out according to the prescriptions given in the Chapter “maintenance”.

The equipment must be controlled and tested under load to guarantee the safety of users and machines.

DURING WORK

Before handling a load, make sure that this operation presents no danger.

Do not start handling a load before the clearance zone (no circulation under the load) has been clearly defined and marked.

Check that the load is correctly and safely strapped, with fixations (cables, ropes …) in accordance with safety norms.

Do not lift heavier loads than the limit given on the WLL plate.

The load should be permanently followed visually by the machine driver; if this is not possible, he shall be assisted by a maneuvering head.

Never leave a hanging load unattended.

Remain permanently aware of the possible consequences of inertia on a hanging load.

2 – 1 General presentation

Manufacturer

Société des Anciens Établissements L. GEISMAR
Boîte Postale 50327
5 rue d'Altkirch
68006 COLMAR CEDEX FRANCE

Name of the equipmentt

Model **TRACK BRUSHING TOOL**
Type **BRV**

2 – 2 General

The **BRV** type track brushing tool is designed to clean the track by removing surplus ballast. The **BRV** works with wooden or concrete sleepers.

The **BRV** is fitted to the end of the arm of a rail-road digger and pushed along by it. The tool is controlled directly via the digger controls. When going over level crossings and other track equipment, the digger will need to lift the **BRV** to avoid damaging the rubber tubes.

The **BRV** is fitted with a lifting bail to simplify handling operations and facilitate inspections.

The standard version of the **BRV** is designed to run on a track with gauge 1435 mm and fits into the upper part of the rolling stock construction gauge UIC 505-1.

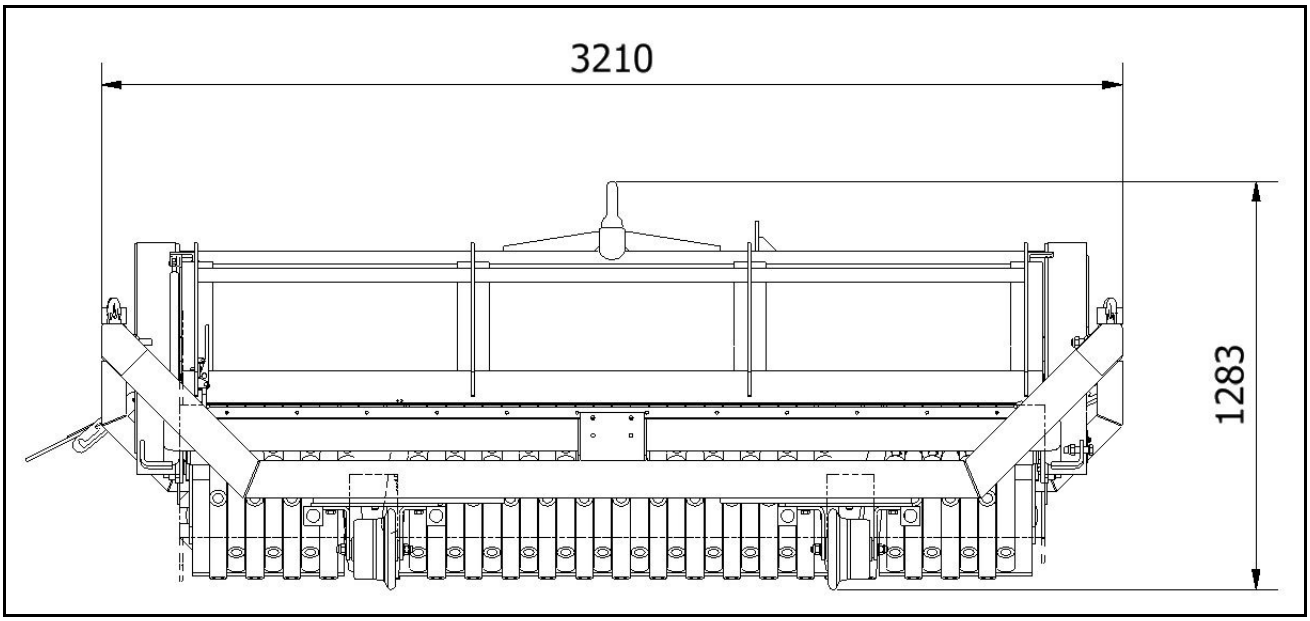
Chapter 3 – Technical specifications

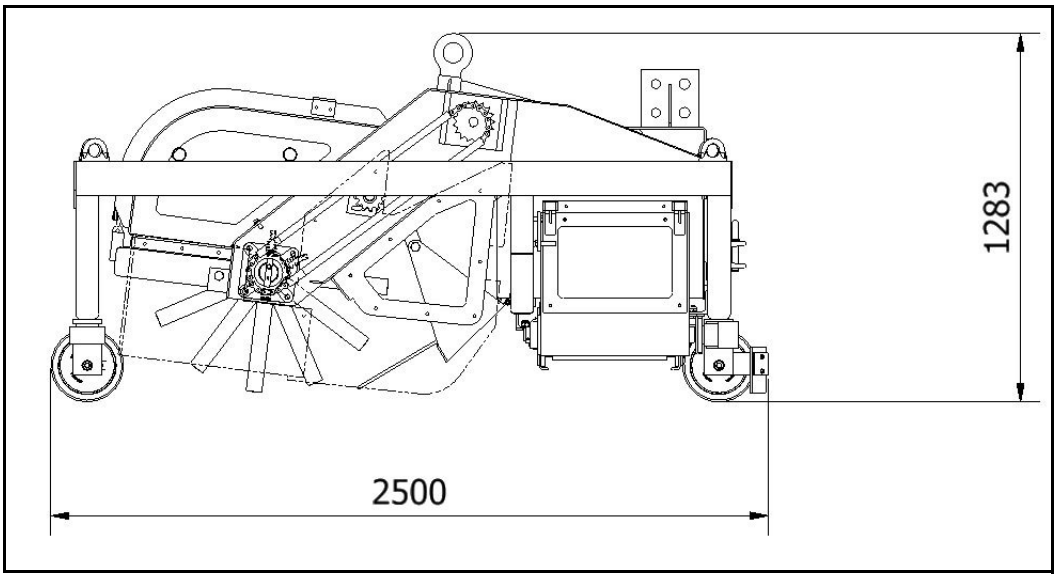
3 – 1 General specifications

Manufacturer	**Société des Anciens Établissements L.GEISMAR**
Address	**5, rue d'Altkirch 68000 COLMAR**
Machine	**TRACK BRUSHING TOOL**
Type	**BRV**
GENERAL SPECIFICATIONS	
Length	**2500 mm**
Width	**3210 mm**
Height	**1283 mm**
Track gauge (standard)	**1435 mm**
Other track gauges on request	**between 950 and 1676 mm**
Number of wheels	**4 (not insulated)**
Wheel diameter	**190 mm**
Coupling bar length	**2.2 m**
Operating speed	**0.5 to 1 km/h**
Coupling bar weight	**41 kg**
Assembly weight	**2400 kg**
Measured performance	**6 cm of ballast swept at 1km/h**
BRUSH	
Brush width	**2750 mm**
Brush diameter	**825 mm**
Brush rotation speed	**260 rpm**
Brush rotation speed	**250 mm**
Standard brush tubes (other tubes on request)	**dia. 55 conventional indentations**
Fitted brush weight	**~ 350 kg**
CONVEYOR	
Belt width	**400 mm**
Overall length	**2500 mm**
Thickness	**180 mm**

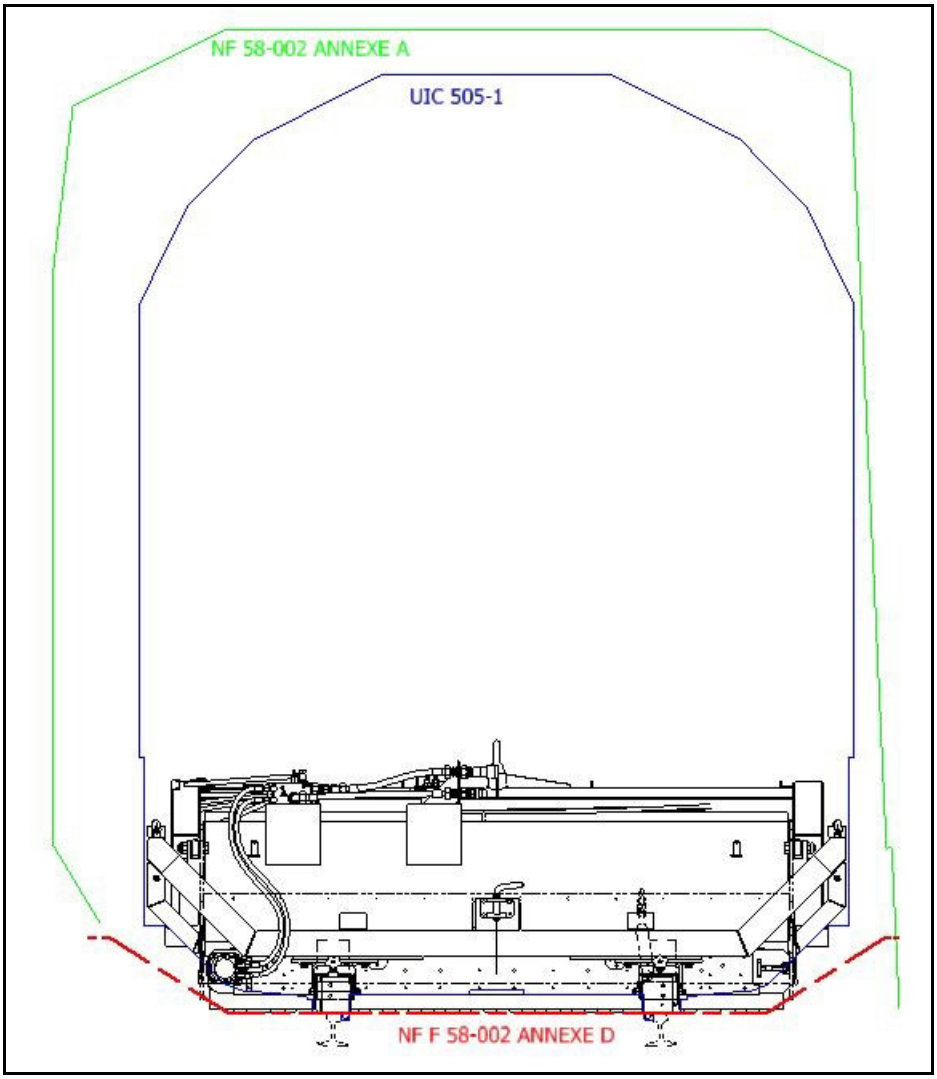
Speed (with Forward/Reverse inversion)	**3 m/s**
Maximum flow rate	**65 m^3/h**
HYDRAULICS	
Operating pressure (motors)	**180 bar**
Useful hydraulic oil flow rate (motors)	**120 l/min**
Operating pressure (cylinders)	**150 bar**
Useful hydraulic oil flow rate (cylinders)	**30 l/min**

3 – 2 Dimensions





3 – 3 Fitment within loading gauges

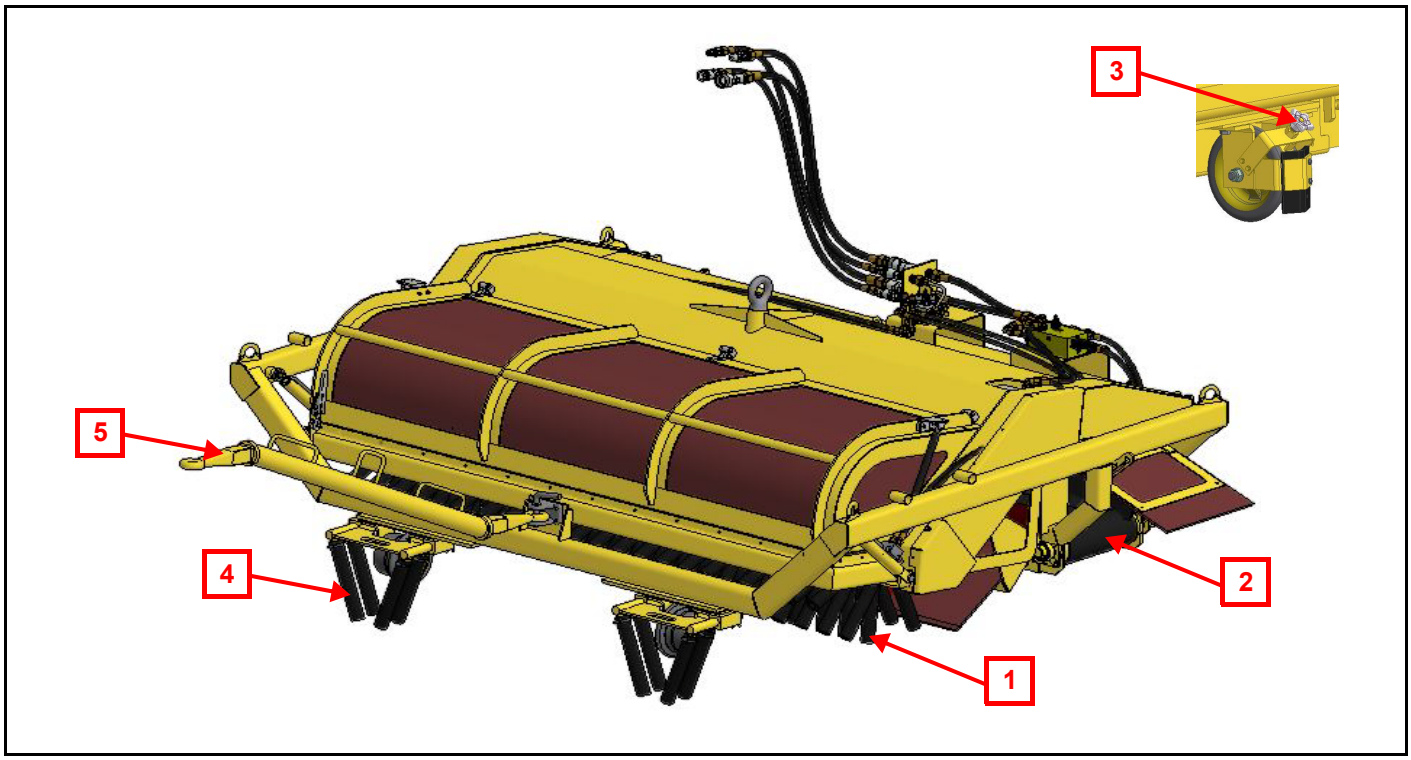


When placing the machine on or taking it off the rails, it may exceed the loading gauge. Special safety measures must be defined in agreement with the rail network operator prior to placing or removing the **BRV on or off the rails.**

Lower section: The **BRV** exceeds the temporary storage loading gauge (NF 58-002 Appendix D). When passing over track equipment, the digger driver must raise the **BRV**.

4 – 1 Main components

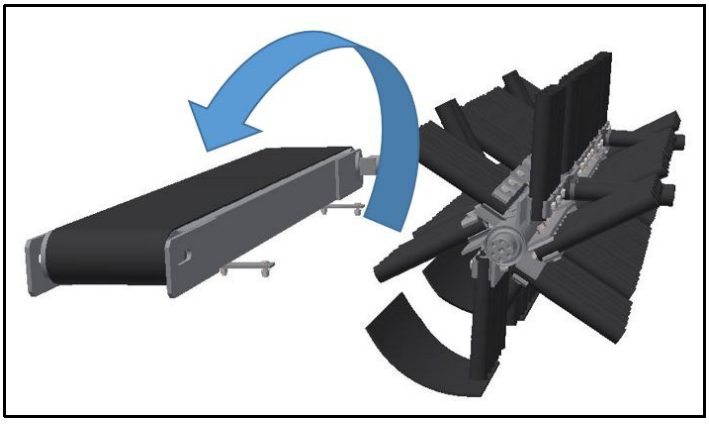
The **BRV** track brushing tool comprises:



- one fitted rotating brush **[1]**;
- one conveyor **[2]**;
- two manual parking brakes **[3]**;
- two rail brushes **[4]**;
- one coupling bar **[5]**.

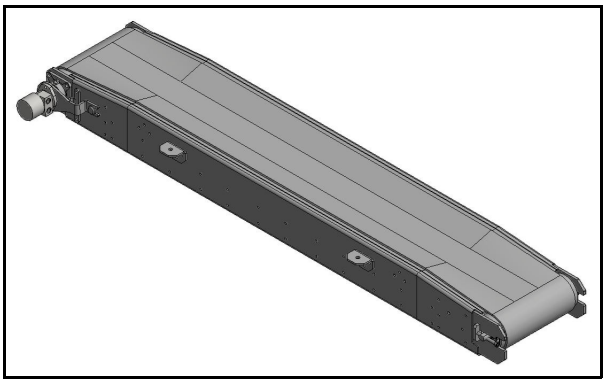
4 – 1 – 1 Fitted rotating brush

The rotating brush is made up of rubber tubes 55 mm in diameter. The rotating brush is driven by a hydraulic motor. It sweeps the track and throws the ballast onto the conveyor by means of the tubes and as a result of its speed of rotation.

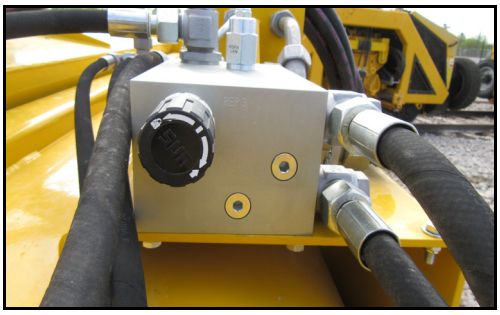


4 – 1 – 2 Conveyor

The conveyor allows the ballast to be ejected either to the left or right of the track. The conveyor is driven by a hydraulic motor. The direction in which the ballast is ejected is reversed by means of a manual inverter on the hydraulic control valve.



CONVEYOR

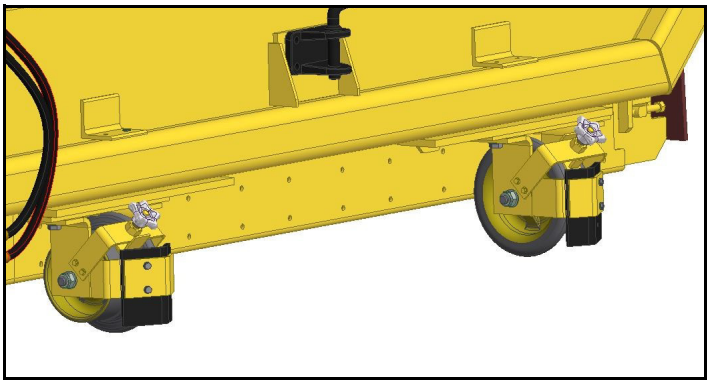


INVERTER

4 – 1 – 3 Manual parking brakes (standard)

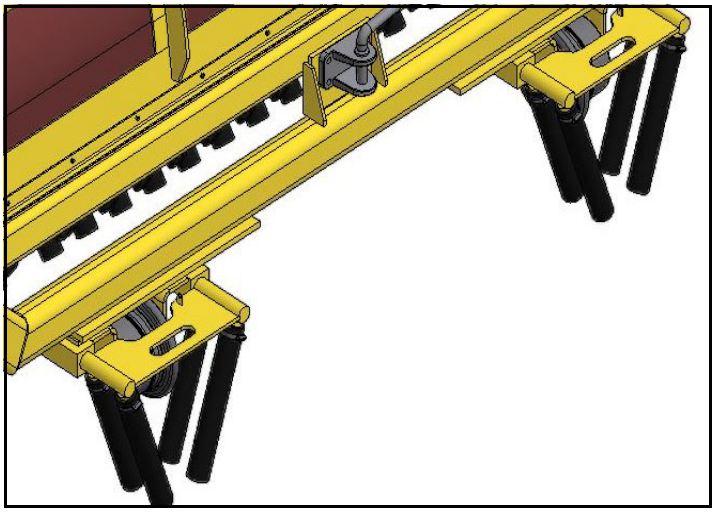
Two screw brakes hold the **BRV** in position while it is being placed on the track or when parked (on its own or coupled).

*Option: Negative brake (see Chapter 7 - Optional equipment)



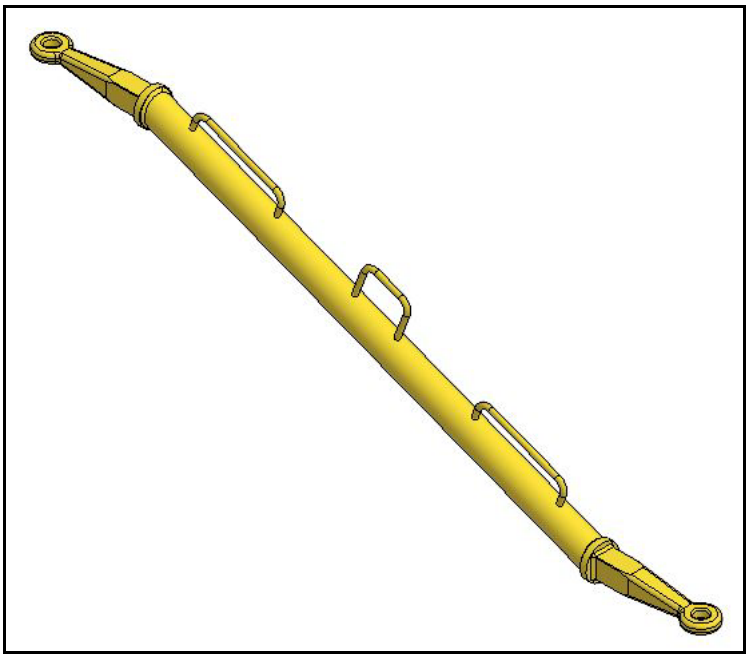
4 – 1 – 4 Rail brush

Two rail brushes remove ballast from the rail base or rail fasteners. There are a number of configurations for the position of these brushes (see 5.3.1 and 5.3.2).



4 – 1 – 5 Coupling bar

The coupling bar connects the rail-road digger and the BRV. As supplied, it is designed for a "Rockinger dia. 40 mm" type coupling on the digger, with a height of between 1.1 and 1.3 metres above the rail. It is 2.2 metres in length.



Chapter 5 – Operating instructions

5 – 1 Handling instructions

Before any use of the equipment, we recommend that you read section:

1-3 General safety regulations

1-4 Particular safety regulations

5 – 2 Checks to be carried out before start-up on a railway work site

Certain operations to be carried out before start-up on a railway work site require the application of safety rules which must be scrupulously adhered to. Any user who does not adhere to these rules is liable for any damage and accidents that they might cause.

Each component must be examined by a competent person before commissioning, in order to reveal any possible faults. The inspection will mainly be of a visual and functional nature.

This will ensure that the various components are safe and that they have not been damaged during transport and storage.

5 – 2 – 1 Checking machine-welded assemblies

Visually check that there are no external faults, deformations, superficial cracks, areas of wear or corrosion marks.

Inspect the condition of welds, check there are no cracks. If in doubt, carry out a check of a suspect weld by liquid penetrant inspection.

Check the attachments (bolts, screws), retighten if necessary.

If necessary, grease the various moving parts of the machine by swabbing using a brush. Wipe away the excess grease using clean cloths.

5 – 2 – 2 Checking the hydraulic circuit

The introduction of foreign bodies into the hydraulic circuit can lead to the rapid deterioration of the vital units of each component.

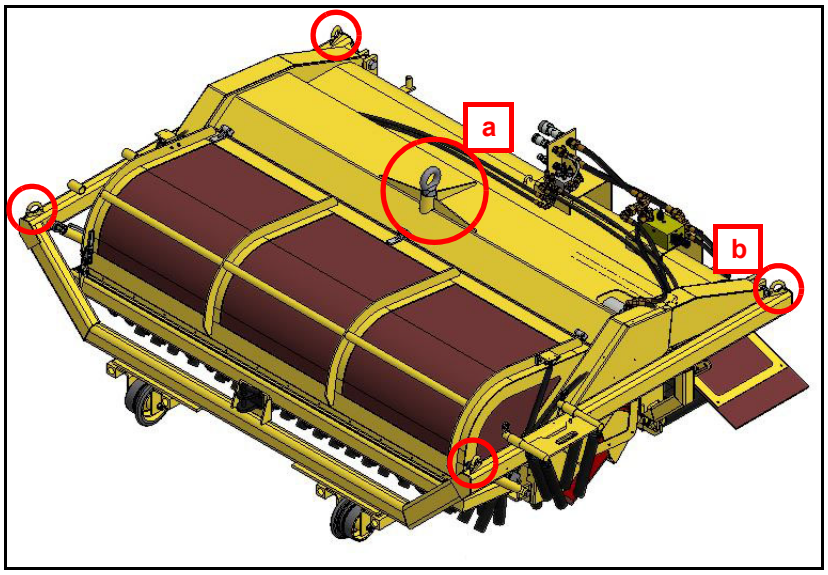
Start up the shovel, then visually inspect the tightness of the hydraulic circuit and ensure that there are no anomalies over an operating time of 5 to 10 minutes.

Check there are no cut hoses (poor handling) or loose connectors.

Visually inspect the tightness of the hydraulic circuit, particularly around the connectors, and the condition of the hoses, which must not show any traces of wear or cuts.

5 – 3 Handling and transport

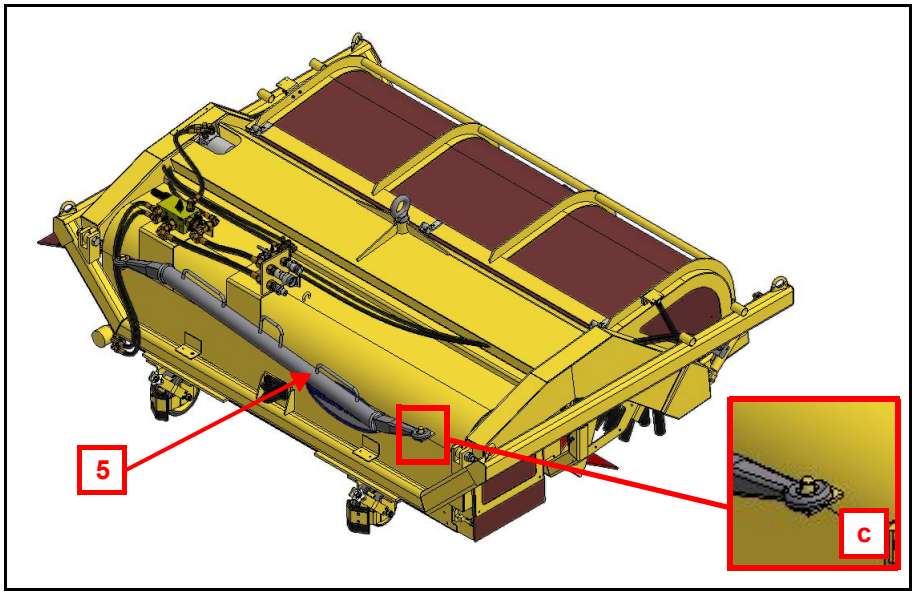
The **BRV** can be brought to a jobsite by rail or road. The **BRV** is unloaded and placed on an empty track using lifting equipment with a lifting capacity greater than 2700 kg. A central lifting bail **[a]** has been installed on the chassis for this purpose. It is also fitted with 4 tie-down rings **[b]**.



There must be no-one in front of and/or behind the machine while it is being handled. Maintain a distance of 3 metres on each side of the machine.

- Never lean on the BRV.
- Never push a load with the **BRV**.
- Avoid balancing the **BRV.**

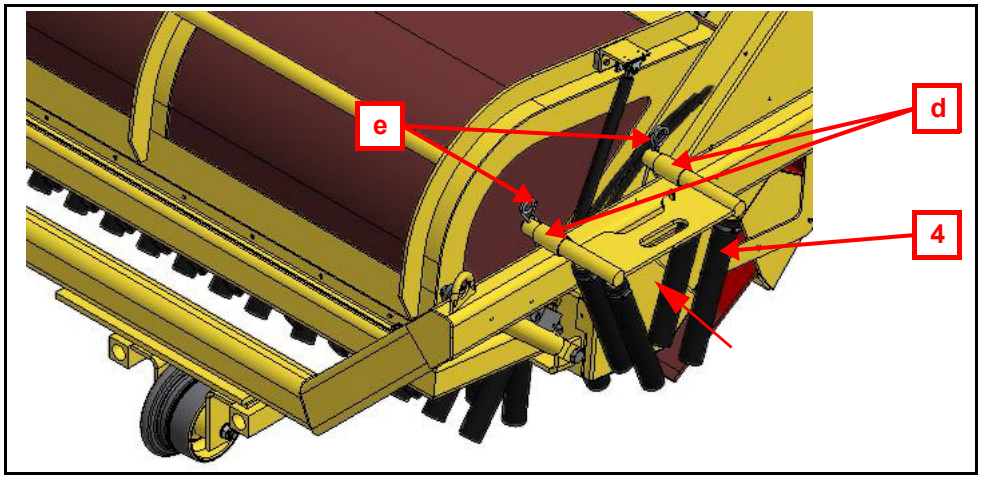
During handling and transport, the coupling bar **[5]** must be stored on the supports **[c]** located on the **BRV**.



5 – 3 – 1 Transporting by road

In order not to exceed size restrictions applicable to road transport, move the rail brushes onto the sides of the machine.

To move the rail brushes onto the sides of the machine, just slide the brushes **[4]** into the two tubes **[d]** located on the chassis. Put the safety shaft pins **[e]** in place.

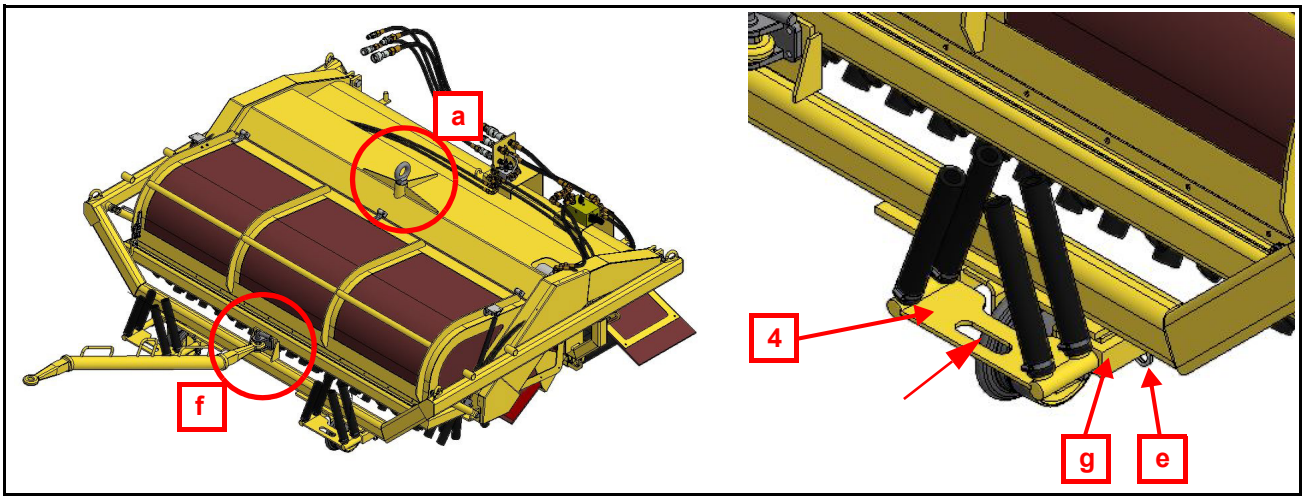


5 – 3 – 2 Transporting by rail

The **BRV** is towed by the rail-road digger at two levels:

- the central lifting bail **[a]** of the **BRV** and the end of the rail-road digger boom;
- the drawbar **[f]** of the **BRV** with the coupling bar of the rail-road digger.

When travelling on rail, ensure that the brushes **[4]** are in travelling position. Slide the brushes into the wheel supports **[g]**, rubber upwards, then put the safety shaft pins **[e]** in place.

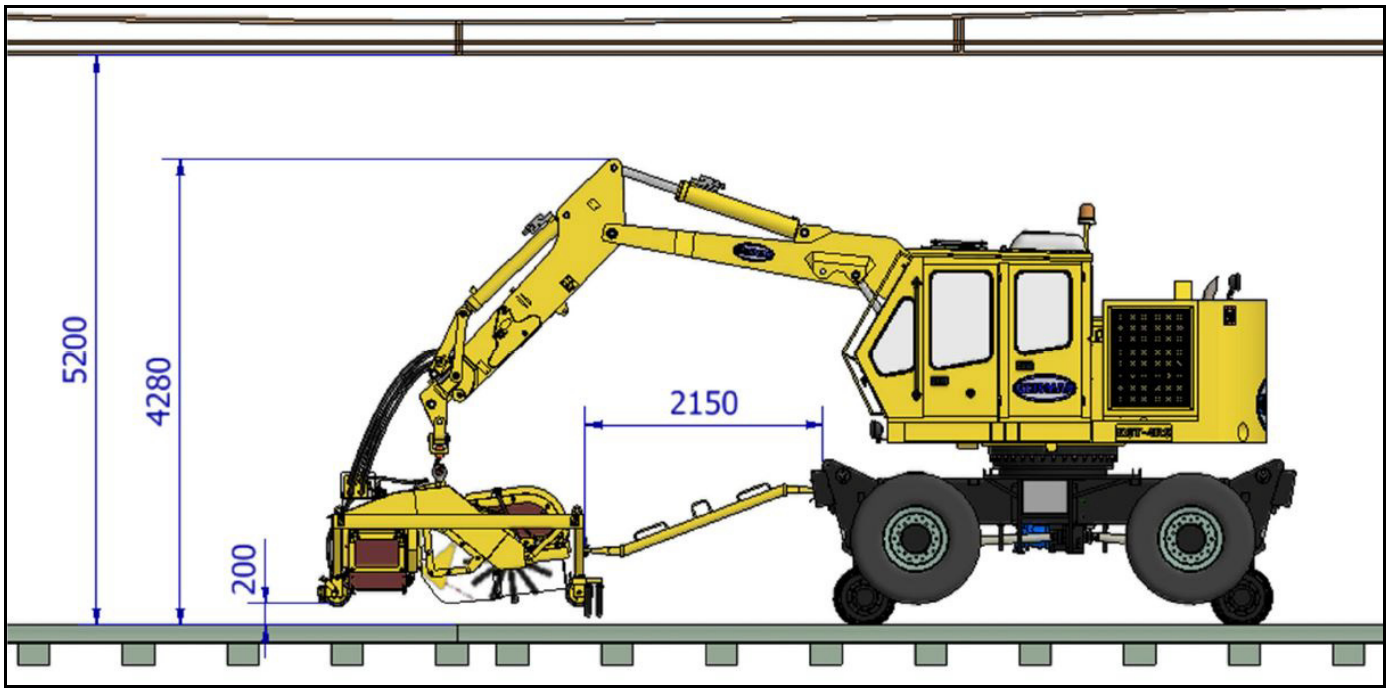


- Never lean on the BRV.
- Never push a load with the **BRV**.
- Avoid balancing the **BRV.**

When going over level crossings and other track equipment, the rail-road digger will need to lift the BRV to avoid damaging the rubber tubes.

5 – 3 – 3 Placing on track under live overhead wire

The **BRV** can be placed on or taken off the track with a rail-road loader by lifting the machine 200 mm above the track while complying with the clearance height under overhead wires of 4280 mm (NF F 58-003). For all other rail-road diggers, uncouple the towbar while placing on or taking off the track.



5 – 4 Hydraulic adaptation between the BRV and the rail-road digger

Most hydraulic diggers are fitted with 2 hydraulic systems fitted at the end of the boom.

To connect the **BRV**, select a system whose flow rate is:

- 120l/min to supply the motors;

- 30l/min to supply the hydraulic cylinders;

Connect the **BRV** by identifying the fittings.

It is essential that the digger is fitted with a return system to the hydraulic tank.

The hydraulic couplings must be supplied by the client to avoid any risk of incompatibility. They can be assembled on site by our assembler.

4 supply pipes are required, namely:

***1 x supply (P)*:** continuous flow rate of 120l/min with pressure of 180 bar, tube end swivel nut connector M42x2 in accordance with DIN3865;

1 x primary return (T): flow rate of 120 l/min, tube end swivel nut connector M42x2 in accordance with DIN3865.

***- 2 x control valves (A and B)*:** flow rate of 30 l/min with pressure of 150 bar, tube end swivel nut connector M36x2, 24° cones in accordance with DIN3865.

To supply the cylinders:

Connection is to A (for raising) and B (for lowering) of the chosen control valve.

When starting the **BRV**, it is essential to set the pump flow rate to 120 l/min and 180 bars to supply the motors. Setting should preferably be performed by the digger manufacturer.

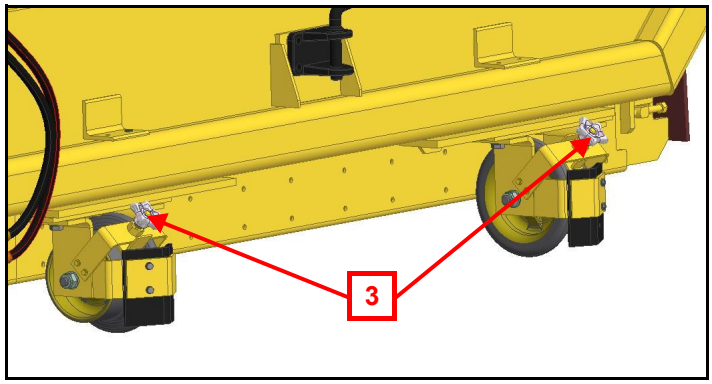
The customer must provide the quick-release couplers to ensure they are compatible with the shovel used.

When changing the hydraulic shovel, these flow rate settings must be checked.

5 – 5 Starting work at the jobsite

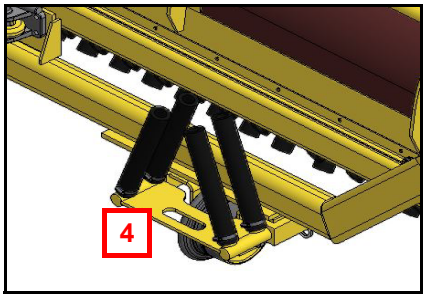
– Run the digger for 15 to 20 mins to improve the fluidity of the hydraulic oil.

– When placing the **BRV** on the track, apply the 2 manual parking brakes **[3]** so it stays in position. *Option: Negative brake (see Chapter 7 - Optional equipment)

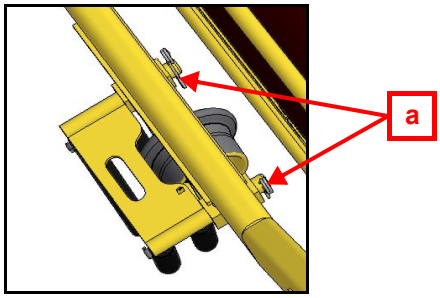


– Couple the **BRV** and the rail-road digger using the coupling bar **[5]**.

– Place the rail brushes **[4]** in working position. Remove the safety shaft pins **[a]**, pull the brush out and turn it over. Put the safety shaft pins back in place.



TRAVEL POSITION



WORKING POSITION

– Start the **BRV** running and leave it running for 5 minutes without moving to allow the hydraulic oil to flow into the system.

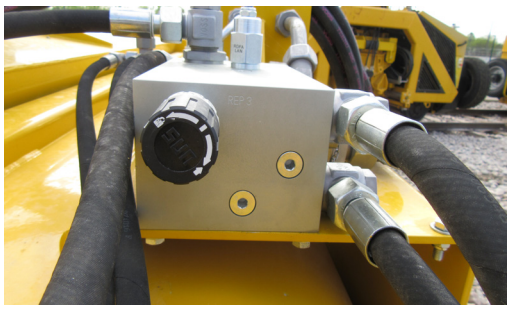
– Choose the side where the ballast is to be ejected. Open the corresponding hatch and select the direction of the conveyor.

HATCH POSITIONS (left or right-hand side)

CLOSED

HALF OPEN

FULLY OPEN



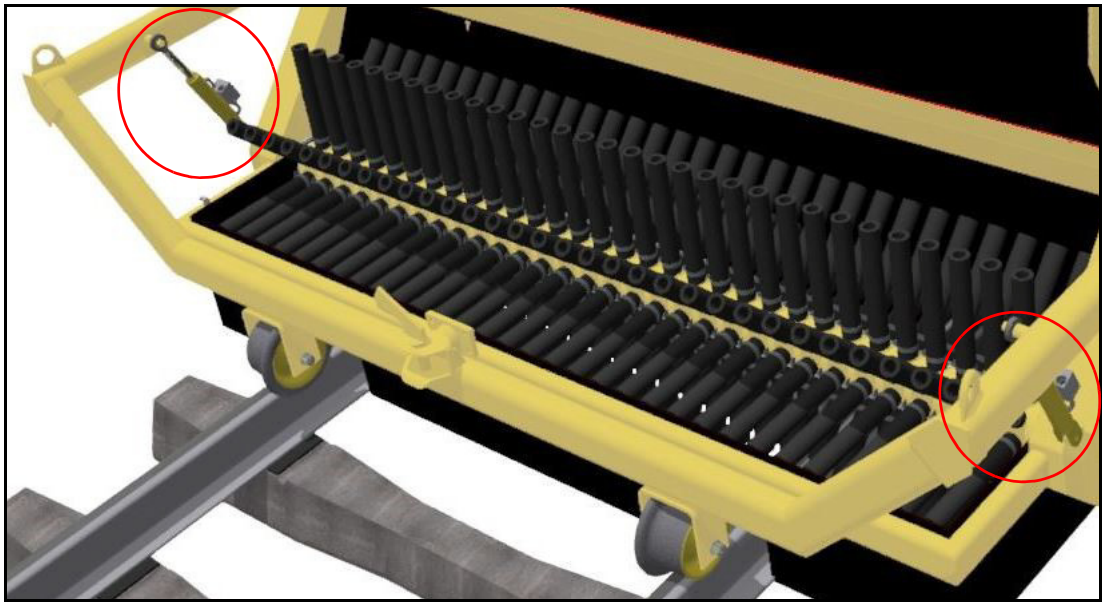
MANUAL INVERTER

PULSE KNOB WITH LOCKING

- TO THE RIGHT:
  - 1st pulse, the belt turns in one direction
  - 2nd pulse, the belt turns in the other direction

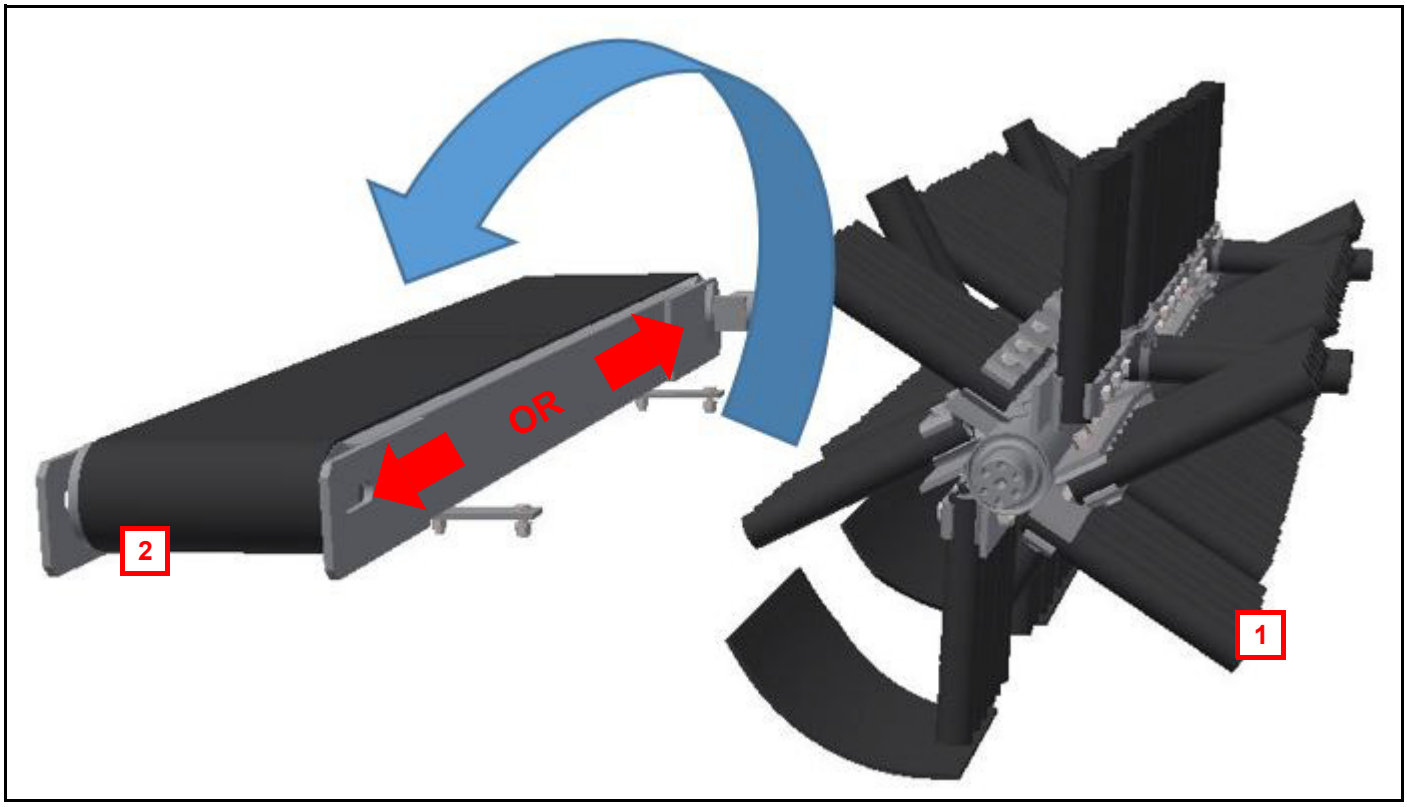
- TO THE LEFT
  - Locks the inverter

– Adjust the height of the brush **[1]** using the joystick which controls the hydraulic cylinders.



– Move forward with the rail-road digger Speed must be between 0.5 and 1 km/h.

– The ballast is fed onto the whole of the conveyor **[2]** by the movement of brush **[1]** and is then ejected depending on which direction the belt is rotating.



Chapter 6 – Maintenance

6 – 1 General maintenance instructions

Before starting operations, the parts which will be in contact with the **BRV** along with neighbouring areas must be cleaned carefully, to prevent impurities from getting into its mechanisms.

6 – 2 Maintenance timetable

Periodically, at least once a year and in accordance with European safety regulations, the **BRV** must be inspected and tested under load by approved maintenance personnel.

Each time it is used :

- Check and test the hydraulic components are operating satisfactorily;
- Inspect the sealing of the hydraulic circuit*.

*Start up the digger and ensure that there are no anomalies for an operating time of 5 to 10 minutes. Periodically, and in particular during intensive use, lubricate the mechanical parts.

6 – 3 Preventive maintenance

EVERY 50 OPERATING HOURS

IMPERATOR LC 3002 grease.

with grease pump with "hydraulic" nozzles

- Hydraulic cylinder	2 x 1 points.
- Wheel dia.190	4 x 1 points.
- Joint	2 x 1 points.

- Clean and grease the transmission chain.

MECHANICAL PARTS

- Check the general condition of the parts (cracks, material torn off, etc.).
- Keep all joints in good condition, coating them regularly with lubricant to protect them from oxidation.

HYDRAULIC HOSES AND CONNECTORS

- Check seals and the tightness of connections.
- Check the condition of the hydraulic hoses, replace hoses as soon as it is noted that a hose has been cut or torn.

This equipment governs how safe the device is to use.

HYDRAULIC CYLINDERS

- Check the sealing and general condition of the cylinders;
- Transmission Oil TOTAL FLUIDE ATX200 code F00269

MOTORS

Refer to suppliers' documentation.

CONVEYOR

Refer to the supplier's documentation.

RUBBER TUBES

Check wear on the tubes, replace if necessary.

This advice is not restrictive. Continuous monitoring and well-organised preventive maintenance can only extend the service life of the device.
It is absolutely essential to record and report all anomalies or deteriorations observed.

6 – 4 Grease equivalence table

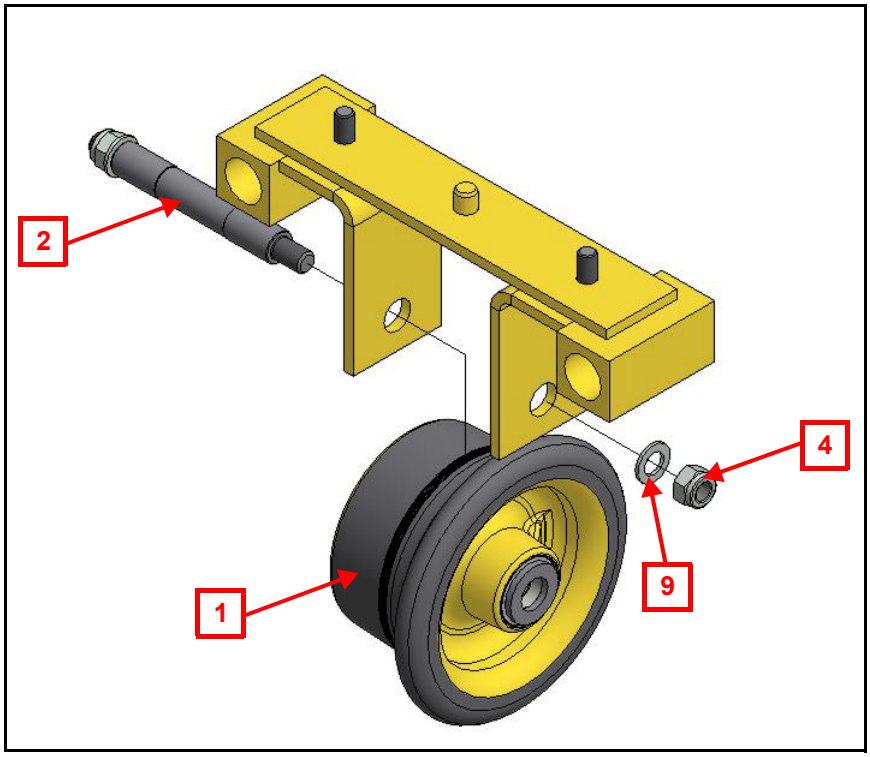
Grease used: **IMPERATOR LC 3002** multifunction grease

	Brand	Grease
1st fill	IMPERATOR	LC 3002
	CASTROL	LM GREASE
	SHELL	ALBIDA HD 2
	BP	ENERGREASE LC 2
	ELF	MULTIPLEX

6 – 5 Wheel removal procedure

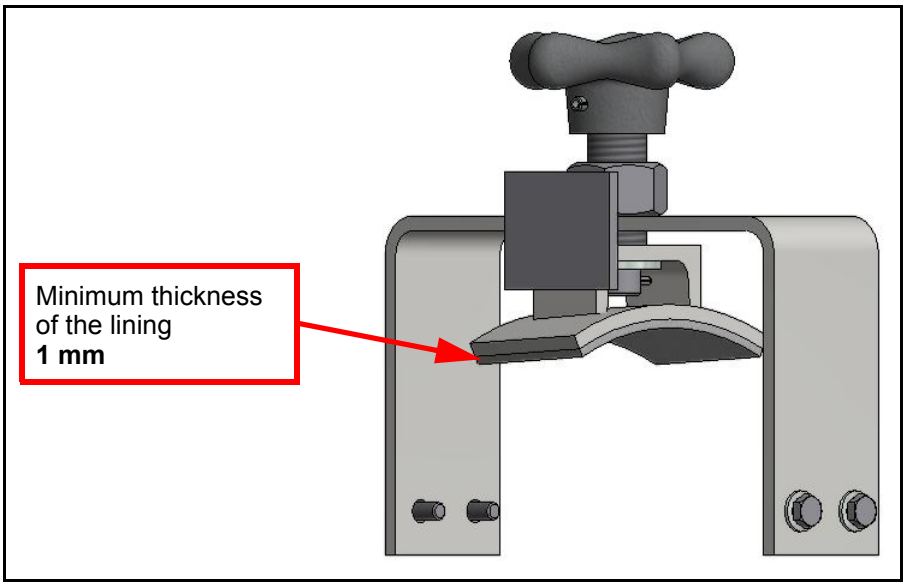
To remove the wheel (only one person required), proceed as follows:

- Unscrew M20 nut **4**.
- Remove washer **9**.
- Drift out shaft **2**, holding wheel **1** to prevent it falling.



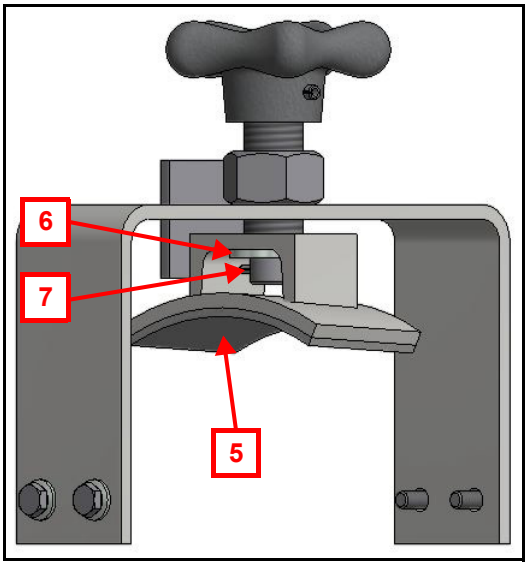
6 – 6 Procedure for replacing a brake shoe

If the lining is less than or equal to 1 mm thick, it should be changed.



To change the shoe (only one person required), proceed as follows:

- Release the brake fully.
- Remove pin **6**.
- Retrieve washer **7**.
- Remove shoe **2**.

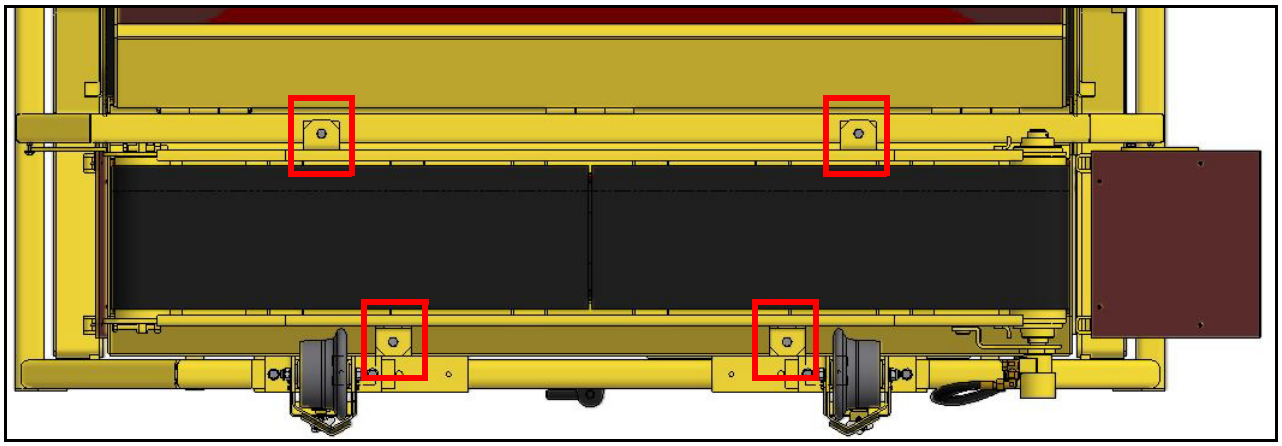


6 – 7 Procedure for removing the conveyor

We recommend three people for this procedure. One person at each end of the conveyor and one to release it.

To do this, proceed as follows:

– Unscrew the M16 nuts (framed in red)



UNDERSIDE VIEW OF THE BRV

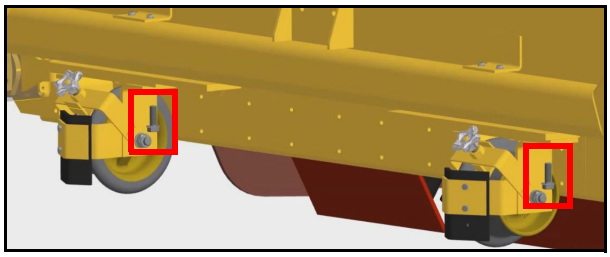
6 – 8 Wear on the inner rubber protection

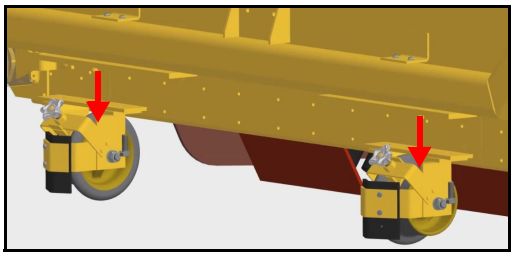
Carry out a visual check as this governs the acoustic comfort of the **BRV**. If faulty, please contact out after-sales service to carry out a repair.

7 – 1 Installing the negative brake

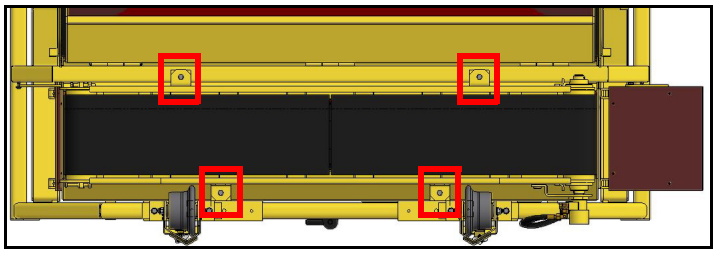
Only one person is needed to carry out the modification.

– Remove the wheel housings. Loosen the M16 screws making sure not to lose the washers (framed in red).

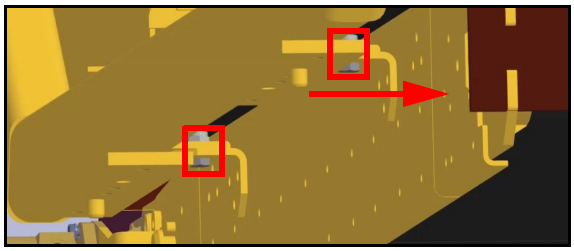


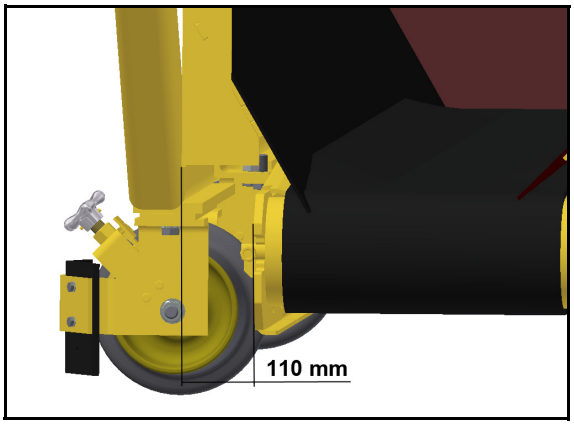


– Gently loosen the M16 nuts (framed in red) so as to move the conveyor in wards by **10 mm** (red arrow). When the conveyor has been moved, tighten the nuts back up.

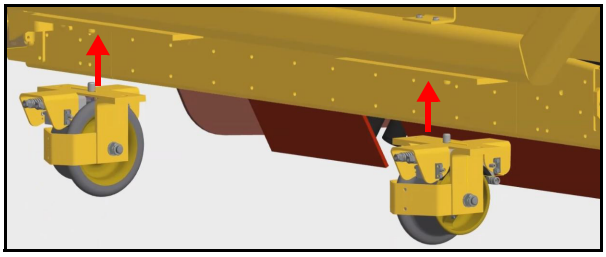


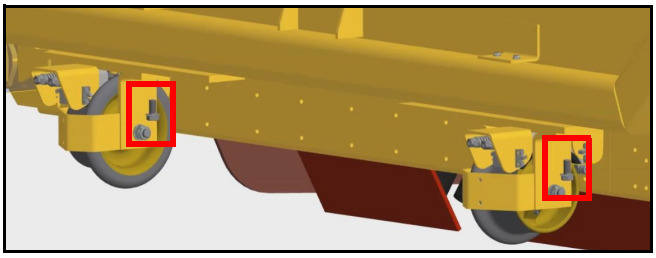
UNDERSIDE VIEW OF THE BRV





– Install the new housings fitted with brakes. Loosen the springs and tighten the M16 screws with their washers (framed in red).





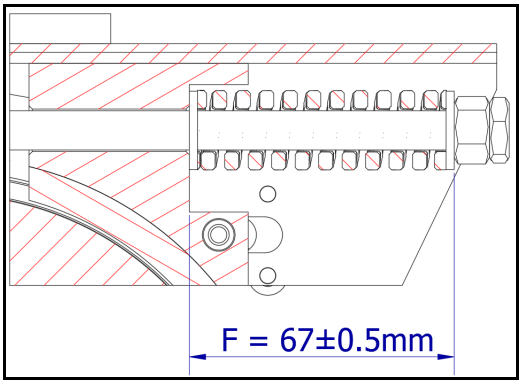
– Connect the brakes to the hydraulic system.

Specifications:

- Closed braking system
- Min. pressure: 55 bar
- Max. pressure: 100 bar
- Flow rate: 10 l/min
- DN10 hose

7 – 2 Verification procedure

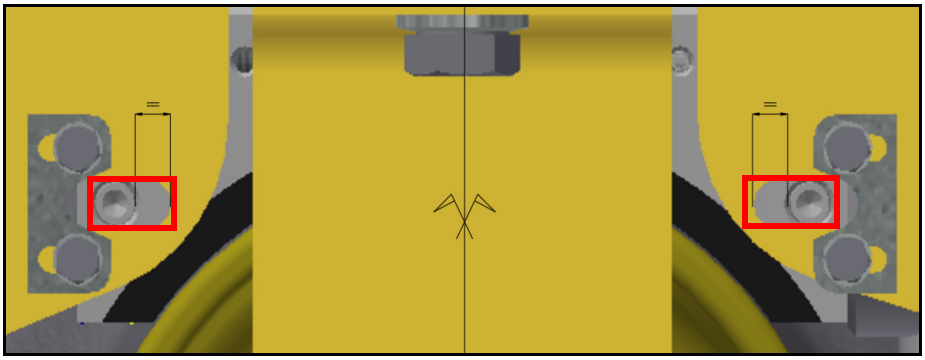
– When the cylinder is depressurised, measure the distance between the outer surface of the washer and base of the shoe. This must measure 67 mm. If not, carry out the brake adjustment procedure (see 7.3).



– If once the cylinder is depressurised the brake shoe is up against the bottom of the slot, this indicates maximum wear (see 7.4).

7 – 3 Brake adjustment

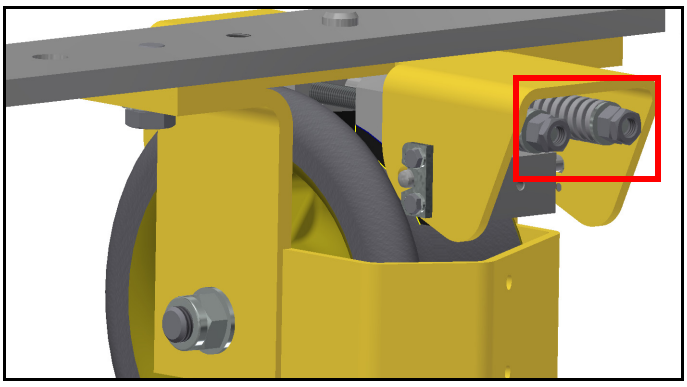
A system is provided to check whether a brake adjustment is needed. The position of the pins (framed in red) shows how much the brakes are worn.

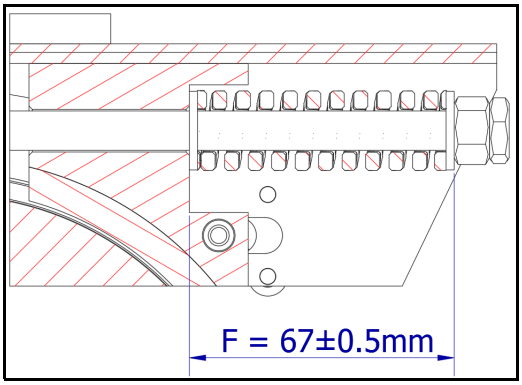


POSITION BEFORE WEAR

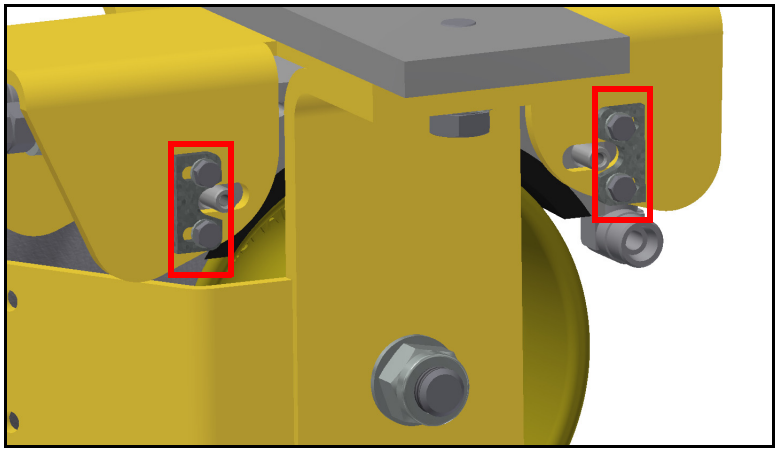
Only one person is needed to carry out the adjustments.

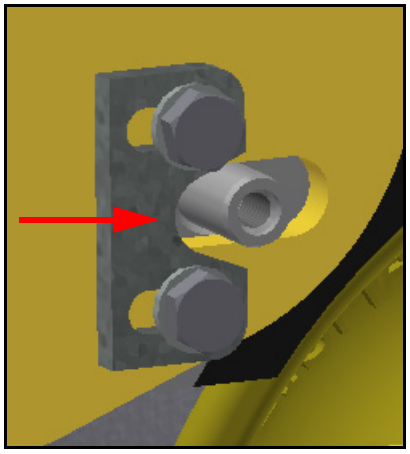
– Tighten the springs using the M12 locknuts (framed in red). It is essential to **comply with the dimension of 67 mm**.

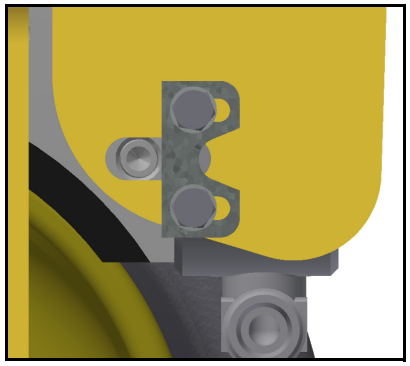




– Replace the spring holder stops after setting. Gently loosen the M6 screws (framed in red) so as to move the stops (red arrow). These must come lightly into contact with the pin when a pressure of 100 bar is applied to the cylinder (note: the stops may be turned round if needed).

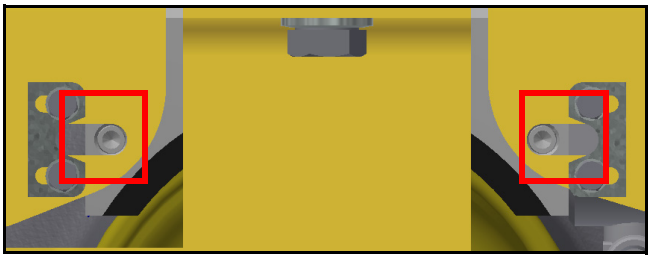






7 – 4 Maximum wear

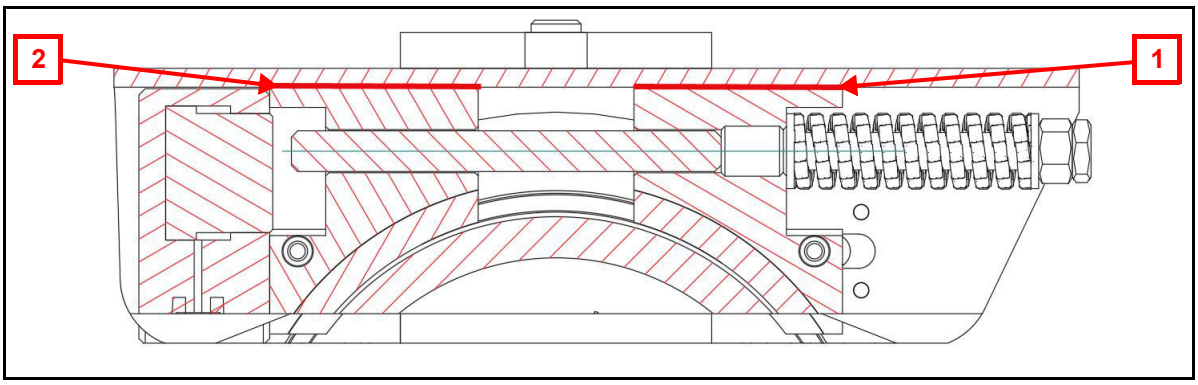
When maximum wear has been reached, return the wheel housings to our workshops.



MAXIMUM WEAR POSITION

7 – 5 Maintenance

Greasing the brake blocks **[1]** and rods **[2]**.



7 – 6 Grease equivalence table

Grease used: **IMPERATOR LC 3002** multifunction grease

	Brand	Grease
1st fill	IMPERATOR	LC 3002
	CASTROL	LM GREASE
	SHELL	ALBIDA HD 2
	BP	ENERGREASE LC 2
	ELF	MULTIPLEX

Chapter 6 – Storage and recycling

6 – 1 General storage instructions

During periods when work equipment is not being used, it is essential to store it so as to maintain its integrity. Badly stored equipment risks being damaged when commissioned. It is therefore important for the staff in charge of storage operations to carry out this storage carefully and to abide by the measures laid down.

6 – 1 – 1 Choice of storage conditions

The choice of storage conditions depends on 2 main factors

- the storage duration and the storage type ("sheltered" storage building, closed shed, open shed, canopy, etc...).

6 – 1 – 2 Storage premises

As a general rule, premises intended for storage of work equipment must provide full protection against

- dusts, exhaust gases, dampness;
- direct sunlight;
- rapid temperature variations.

6 – 1 – 3 Putting into storage

The condition of the work equipment when put to work after storage depends on how well it was prepared and protected before being placed in storage

Before resuming work after storage, clean the equipment (when cleaning, protect the moving parts with grease).

A technical inspection should be carried out to uncover any possible anomalies.

6 – 2 Decommissioning - Disassembly - Disposal

When work equipment presents a state of aging that may cause risks, there is a requirement for the user to ensure the disposal of this equipment, namely putting out of work.

Decommissioning or disposal requires to remove used fluids which will be given to a relevant department.

IMPORTANT In addition to those listed in the instruction manual, some precautions must be taken into account when decommissioning this work equipment to avoid any risk during dismantling and transport, and to minimize a possible environmental impact of its sub-parts or products.

The equipment must be disposed of by an approved body complying with the local standards in force for recovery of waste.

7 – 1 Foreword

The spare parts catalogue is made up of coded plates comprising a list and a drawing.

IN THIS EXAMPLE

We wish to replace **Cylinder 8** (1) of subassembly **H82607_NO**

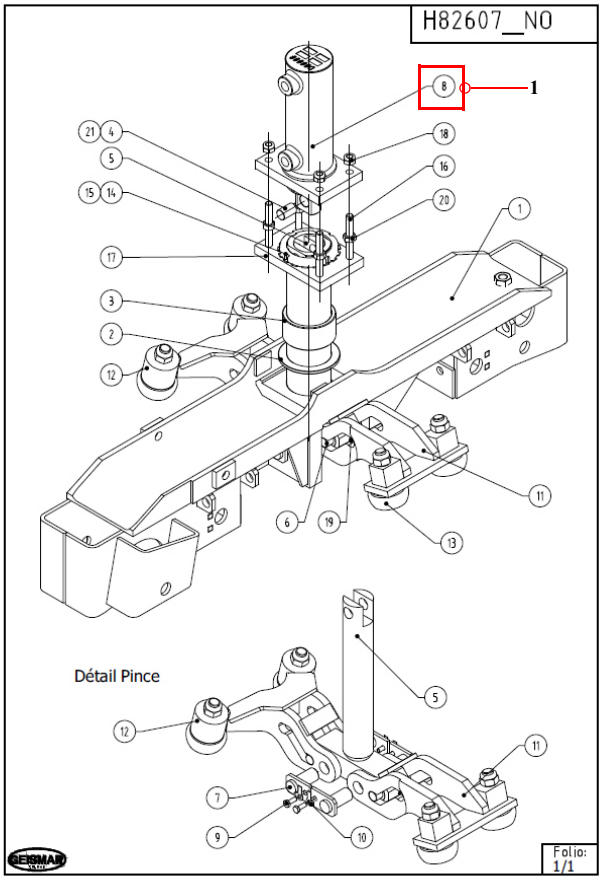
Rep	Qté	Désignation CHARIOT DE TRANSLATION	Code H82607_NO
1	1	CHÂSSIS	H72576
2	1	RONDELLE	H00721
3	2	BAGUE	H00722
4	1	AXE	H00723
5	1	TIRANT AVEC BAGUES	H29911
6	2	AXE	H02030
7	4	AXE	H09091
8	1	VÉRIN DE PINCE À RAILS	V10016_NO
9	4	VIS	C00331
10	4	RONDELLE	C02221
11	1	BRAS DE PINCE INTERIEUR	H54214
12	1	BRAS DE PINCE EXTERIEUR	H54215
13	4	GALET Ø 60 MONTÉ	H20037
14	1	RONDELLE	D03505
15	1	ÉCROU	D03485
16	4	GOUJON	H71641
17	1	SUPPORT VÉRIN	H12526
18	4	ÉCROU	C00143
19	2	VIS	C00802
20	4	ÉCROU	C00120
21	1	VIS	C02088

Éo : 12/11

2

IMPORTANT : Afin que votre commande de pièces de rechange soit suivie d'une livraison prompte et correcte, il faut indiquer le N° et année de fabrication de la machine, le N° de série, la désignation ainsi que le Code des pièces de rechange

Page – 20



You will find the code for this cylinder (**V10016_NO**) in parts list (2).
Enter this information on your parts replacement request.

7 – 2 After-sales service contact details

Tel	**+33 (0) 3 89 80 41 90**
Fax	**+33 (0) 3 89 80 42 28**
e-mail	**sav@geismar.com**

Société des Anciens Etablissements **L.GEISMAR**
Boite Postale 50327 5 rue d'Altkirch
68006 COLMAR CEDEX FRANCE
Tél : +33 (0) 3 89 80 41 90 - Fax : 33 (0) 3 89 80 42 28
E-mail : sav@geismar.com

SPARE PARTS CATALOG

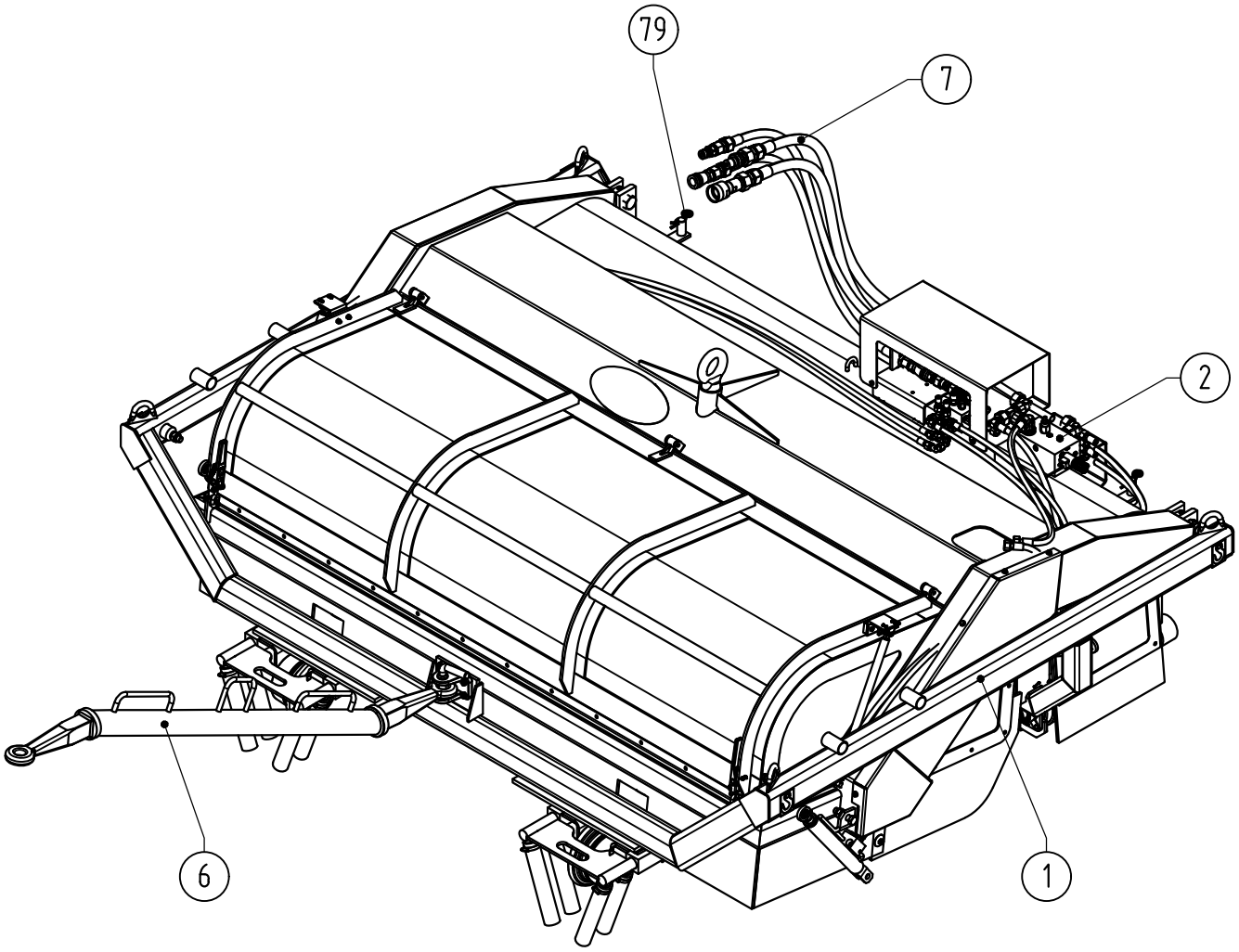
Model TRACK BRUSHING TOOL

Type BRV

Code: H110200_0118

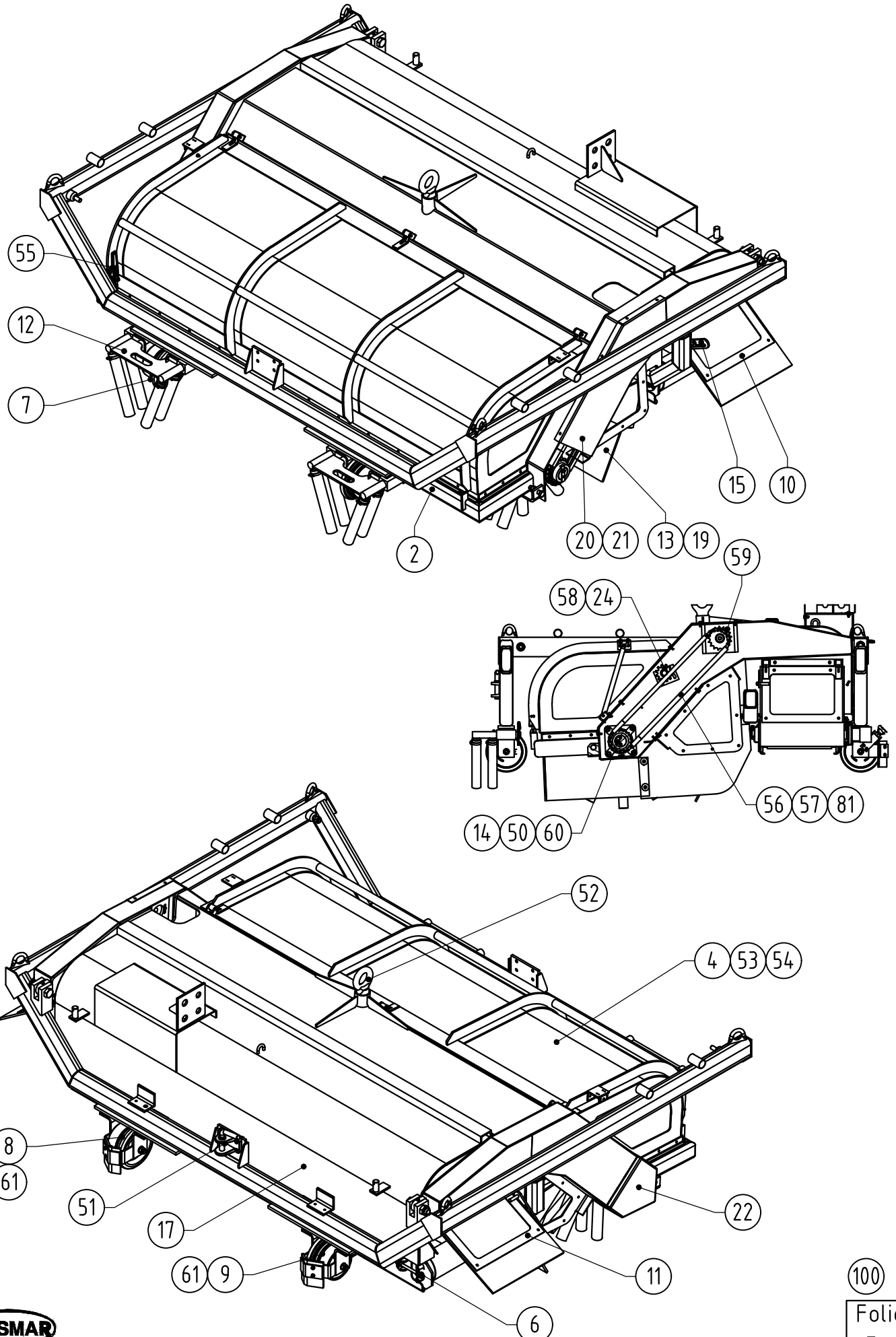
Section A–Mechanical Components

Item	Qty	Description	Code
		RAIL BRUSH	**H110200_NO**
1	1	MECHANICAL ASSEMBLIES	H110202_NO
2	1	HYDRAULIC EQUIPMENT	H110203_NO
6	1	COUPLING BAR	H103160
7	1	HYDRAULIC CONNECTION	H110213_NO
79	2	SHAFT PIN	D01074


79
7
2
6
1

MECHANICAL ASSEMBLIES H110202_NO

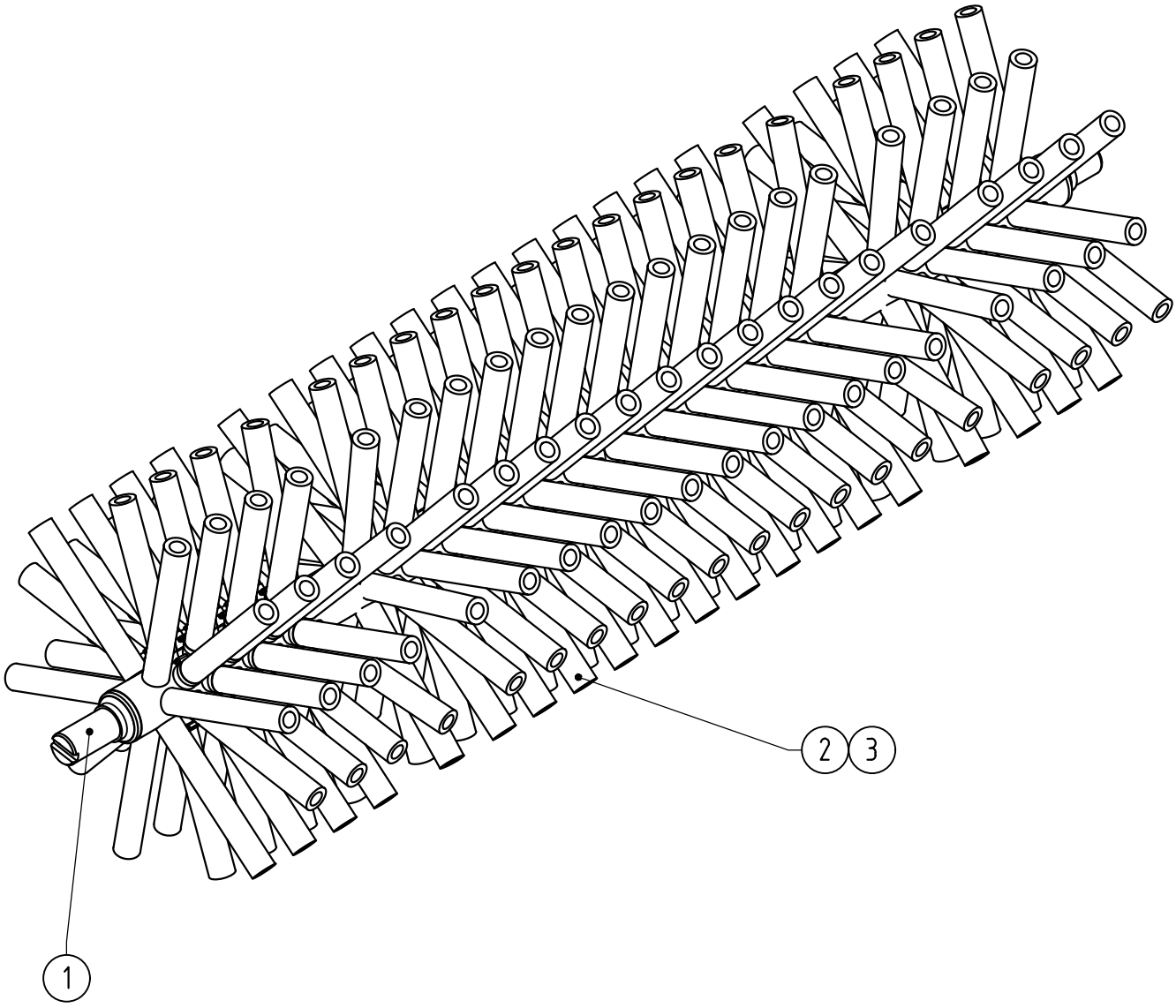
Item	Qty	Description	Code
2	1	ARM	H110315
3	1	BRUSH SHAFT	H110216_NO
4	1	FRONT FITTED COVER	H110111
5	1	RUBBER PROTECTION	H110155_NO
6	1	BELT CONVEYOR	D20357
7	2	FRONT WHEEL COVER	H110220_NO
8	1	REAR RIGHT WHEEL COVER	H110221_NO
9	1	REAR LEFT WHEEL COVER	H110222_NO
10	1	RIGHT COVER	H111858
11	1	LEFT COVER	H111857
12	2	BASEPLATE BRUSH	H110123_NO
13	1	DEFLECTOR	H110320
14	1	KEY	H110189
15	2	FLAP HOOK	H110236
17	1	BODY	H110332
18	2	PLATE	H110294
19	2	DEFLECTOR ROD	H110287
20	1	PROTECTION PANEL	H111860
21	1	PROTECTION PANEL	H110363
22	1	PROTECTION PANEL	H110364
24	1	TENSIONER SUPPORT	H110366
50	2	BRUSH SHAFT BEARING	D20369
51	1	MANOEUVRING CLEVIS	D17443
52	1	LIFTING BAIL	D10707
53	2	GAS CYLINDER	D14422
54	4	GAS CYLINDER FIXING ASSEMBLY	D20278
55	2	CLOSURE	D19677
56	1	CHAIN LEN. 2500	D20370
57	1	LINK	D03085
58	1	TENSIONER PINION	D20371
59	1	MOTOR PINION	H110187
60	1	RECEIVER PINION	H110188
61	2	MANUAL PARKING BRAKE	H111183_NO
81	1	JUNCTION LINK	D20426
100	1	LABEL PACK	H111384



GEISMAR COLMAR

Folio: -

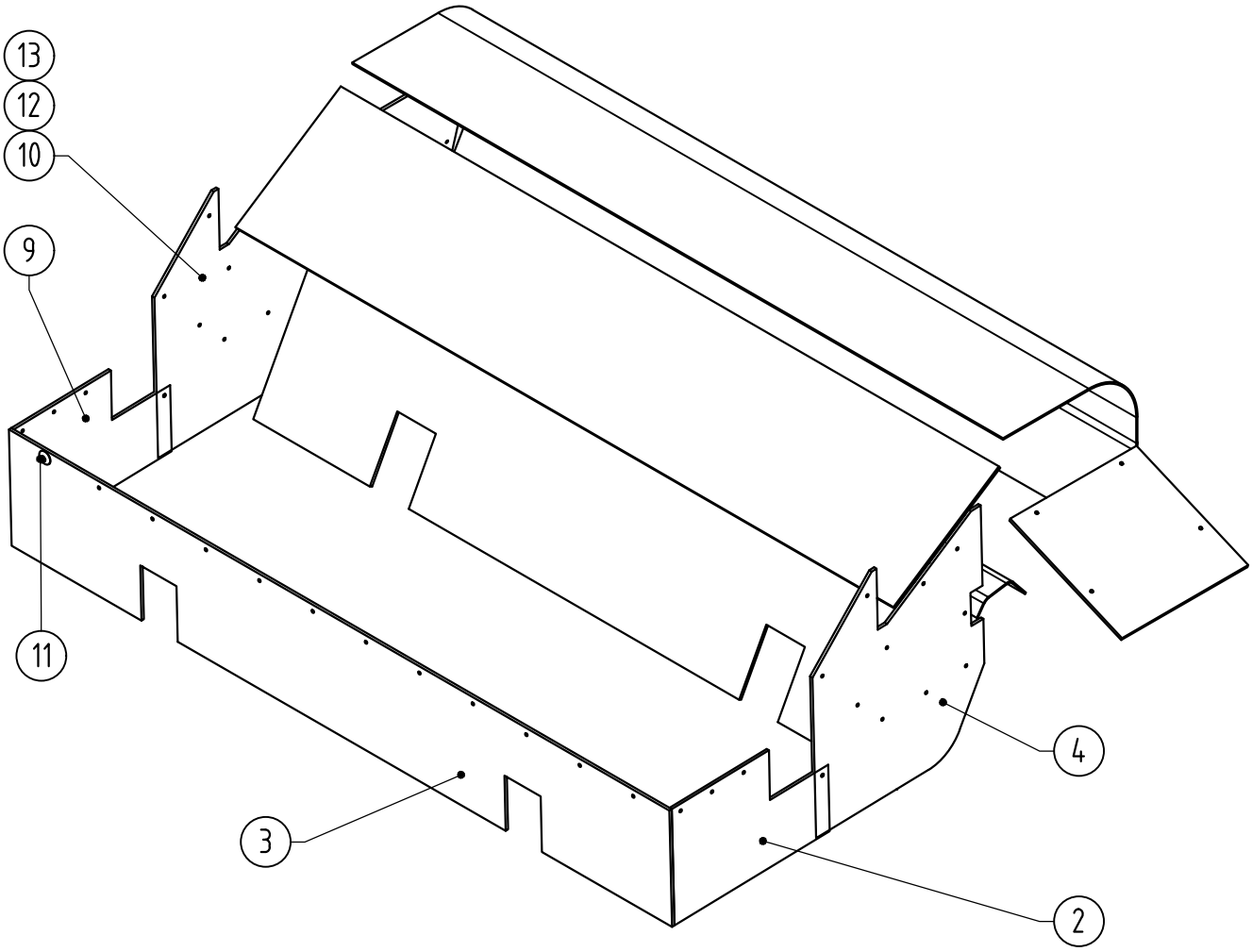
Item	Qty	Description	Code
		BRUSH SHAFT	**H110216_NO**
1	1	BRUSH SHAFT	D20355
2	240	RUBBER TUBE	D20356
3	240	HOSE CLIP	D20354
		OPTION	
	240	HIGH STRENGTH RUBBER TUBE	D20435



GEISMAR COLMAR

Item	Qty	Description	Code
		RUBBER PROTECTION	**H110155_NO**
2	1	FRONT RIGHT SIDE SKIRT	H110116
3	1	FRONT SKIRT	H110119
4	1	REAR RIGHT SIDE SKIRT	H110115
9	1	FRONT LEFT SIDE SKIRT	H110160
10	1	REAR LEFT SIDE SKIRT	H110158
11	100	BOLT	C02662
12	4	SCREW	C00341
13	4	WASHER	C01022

H110155__NO

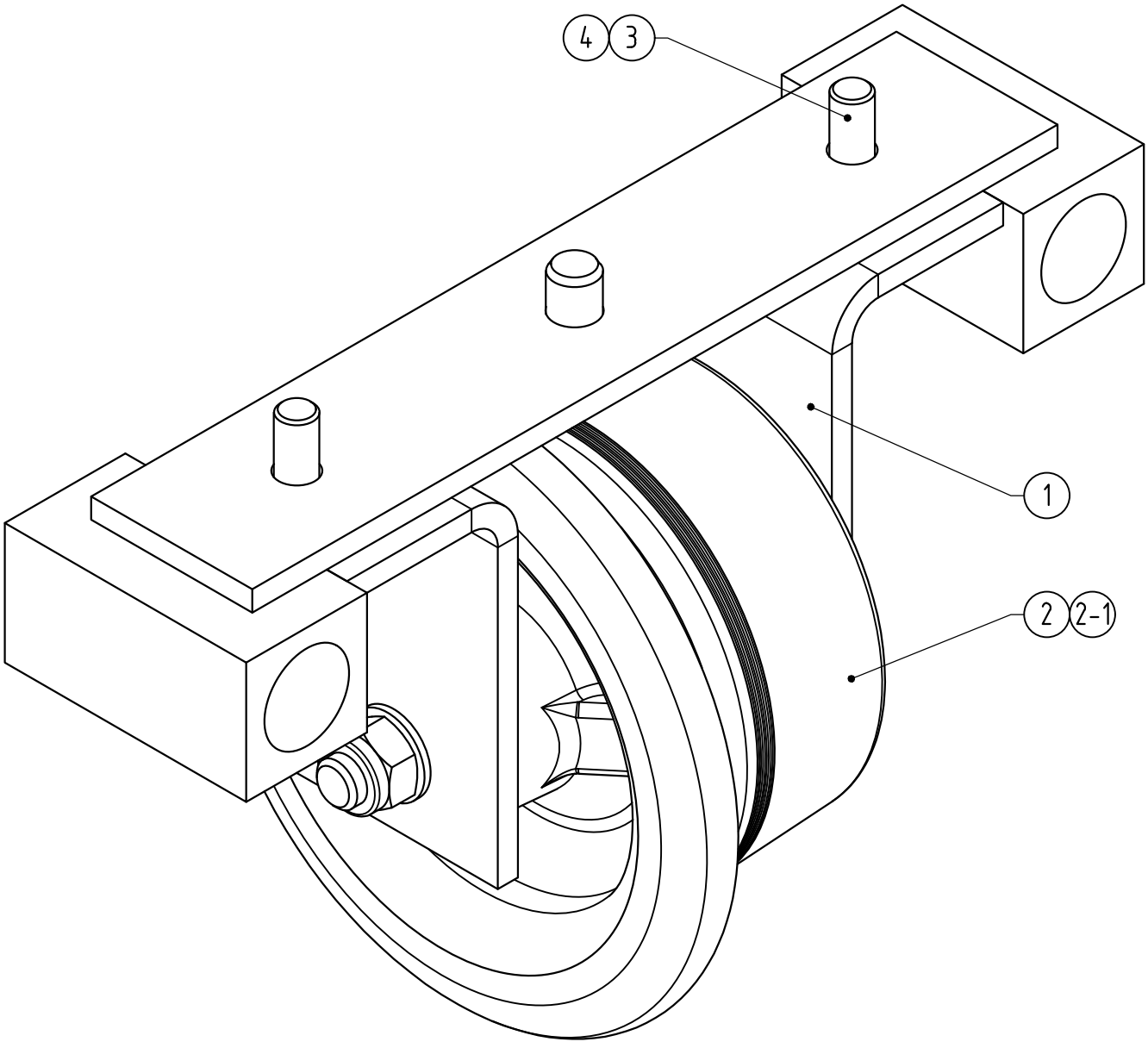


GEISMAR COLMAR

Folio:
-

Item	Qty	Description	Code
		FRONT WHEEL HOUSING	**H110220_NO**
1	1	FRONT HOUSING	H110128
2	1	FITTED NON-INSULATED WHEEL D190	H00108
2-1	1	INNER SECTION KIT	H21851
3	2	SCREW	C00396
4	2	WASHER	C01818

H110220__NO

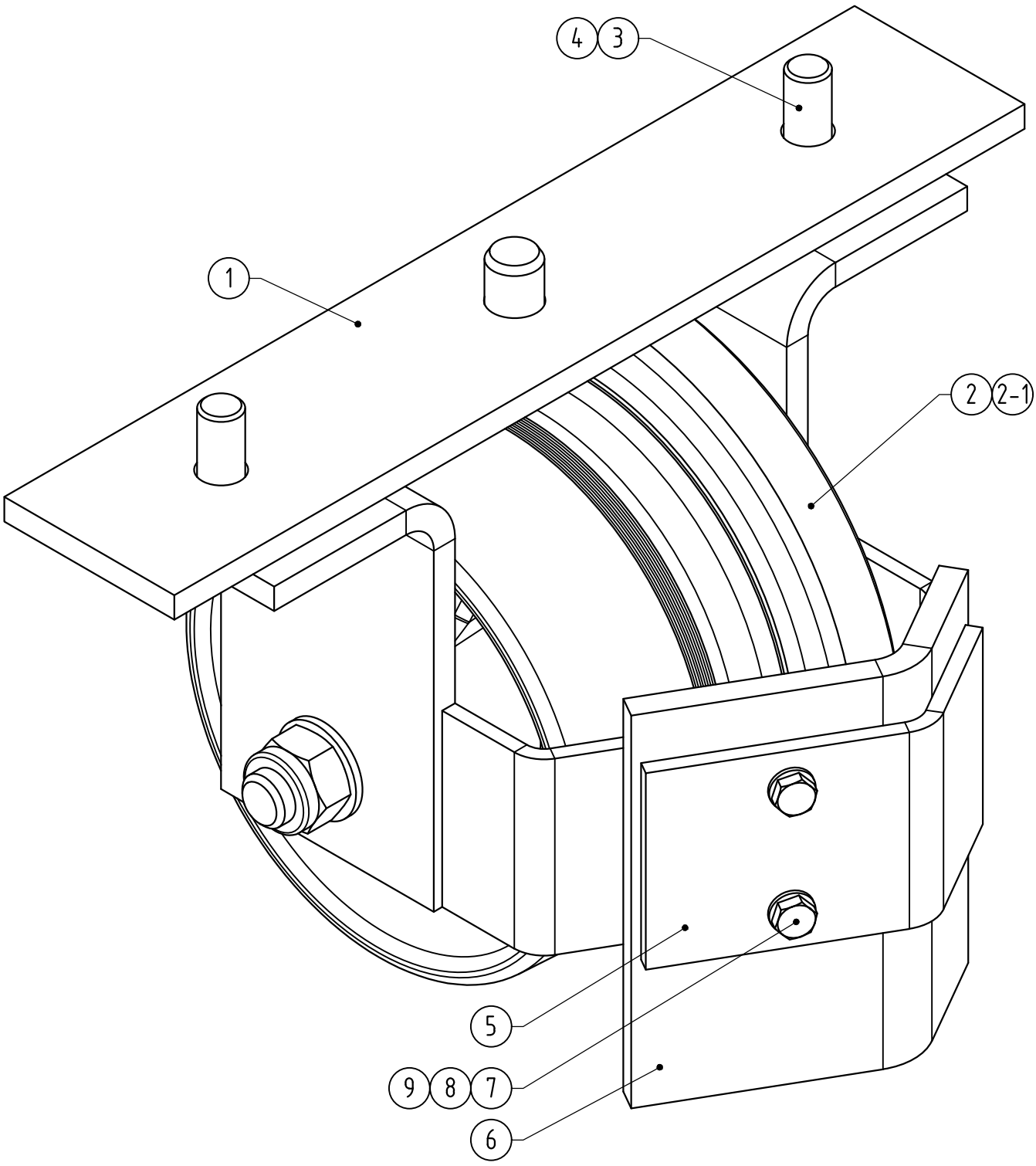


GEISMAR COLMAR

Folio:
-

Item	Qty	Description	Code
		REAR RIGHT WHEEL HOUSING	**H110221_NO**
1	1	REAR RIGHT HOUSING	H110199
2	1	FITTED NON-INSULATED WHEEL D190	H00108
2-1	1	INNER SECTION KIT	H21851
3	2	SCREW	C00396
4	2	WASHER	C01818
5	1	SUPPORT	H110201
6	1	PILOT	H110224
7	2	SCREW	C00343
8	2	NUT	C02608
9	4	WASHER	C01036

H110221__NO



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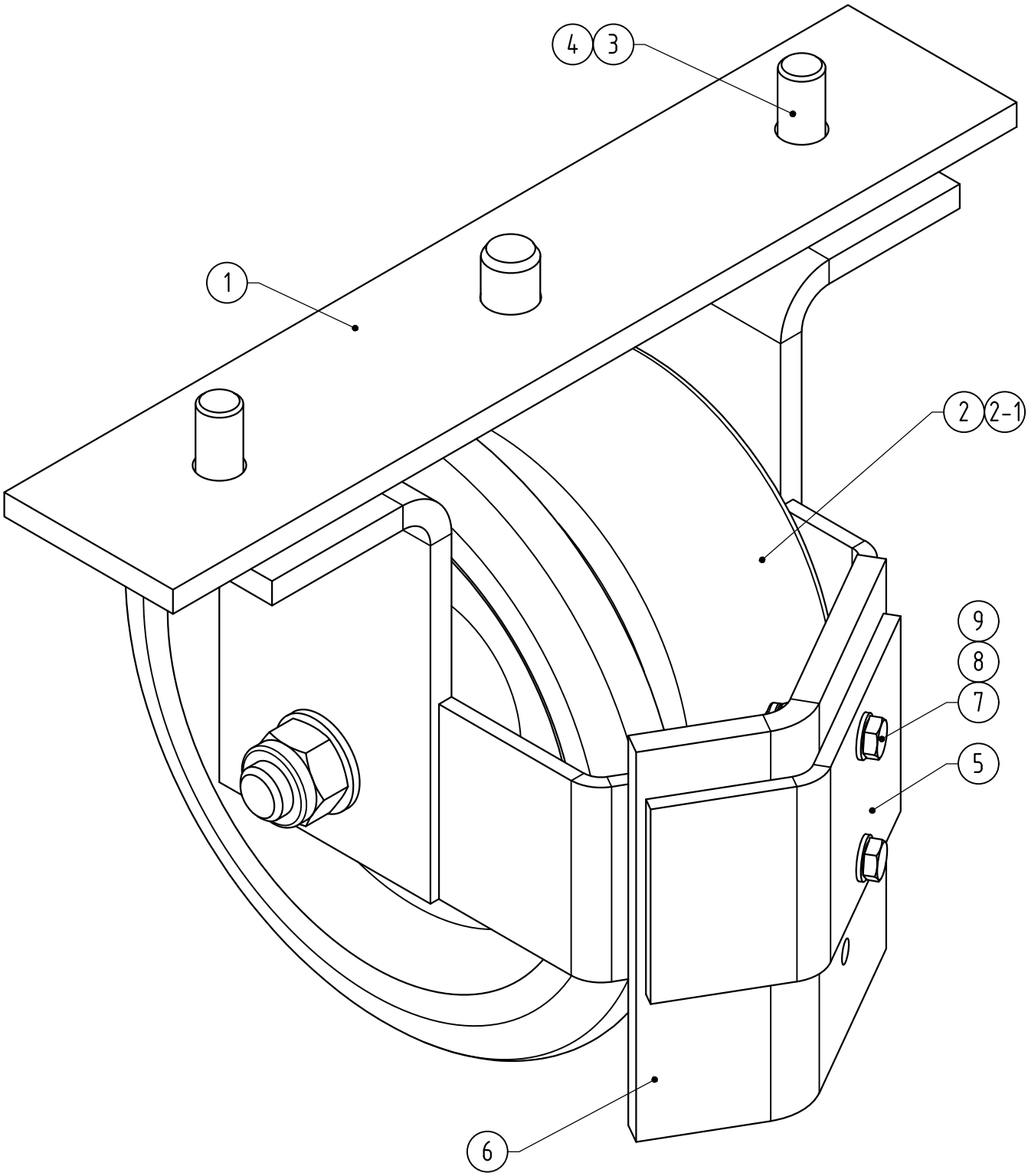
Item	Qty	Description	Code
		REAR LEFT WHEEL HOUSING	**H110222_NO**
1	1	REAR LEFT HOUSING	H110198
2	1	FITTED NON-INSULATED WHEEL D190	H00108
2-1	1	INNER SECTION KIT	H21851
3	2	SCREW	C00396
4	2	WASHER	C01818
5	1	SUPPORT	H110201
6	1	PILOT	H110224
7	2	SCREW	C00343
8	2	NUT	C02608
9	4	WASHER	C01036

H110222__NO



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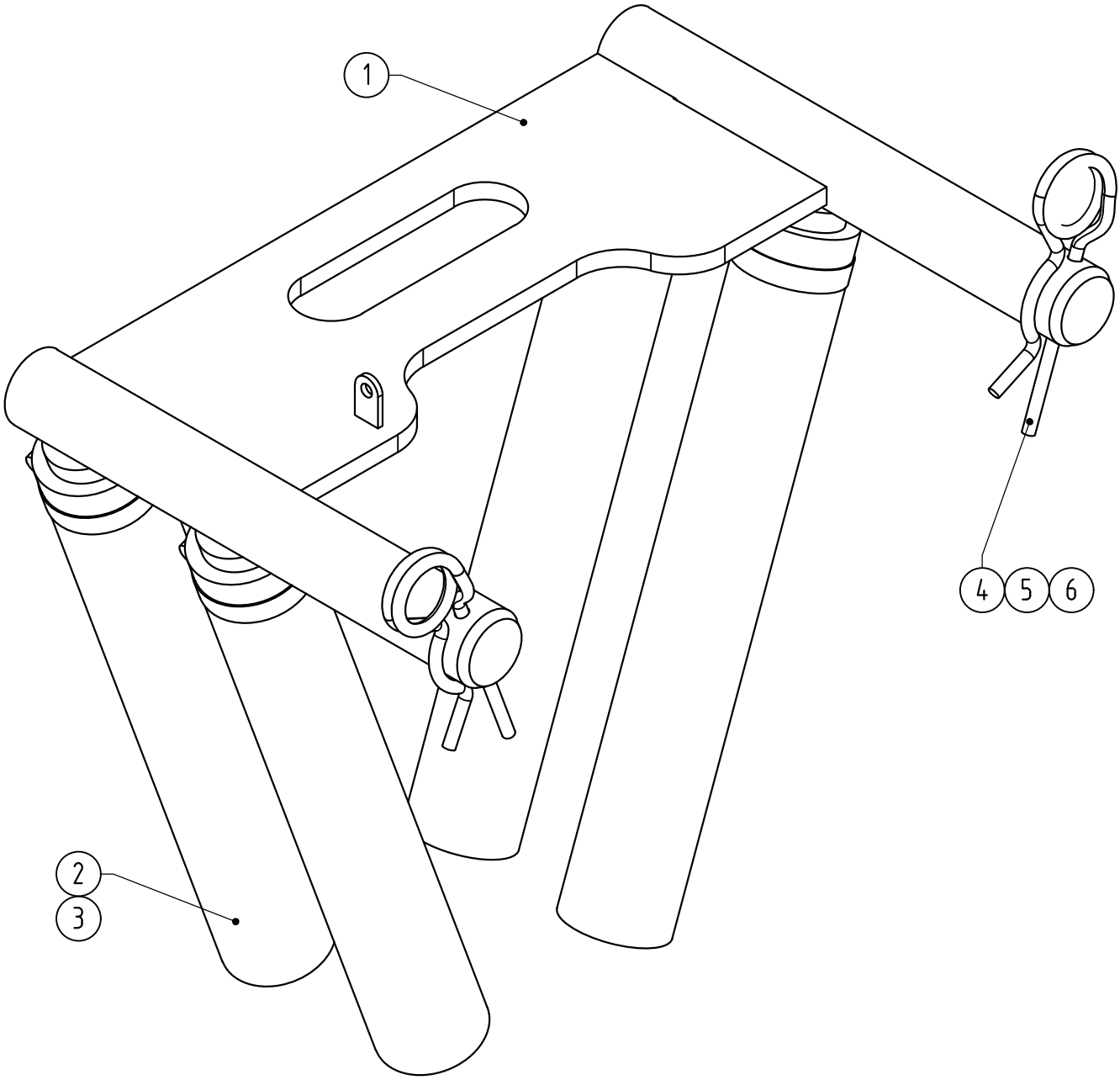
Item	Qty	Description	Code
		BASEPLATE BRUSH	**H110123_NO**
1	1	SUPPORT	H110124
2	4	RUBBER TUBE	H111370
3	4	HOSE CLIP	D20354
4	2	SHAFT PIN	D01075
5	3	QUICK LINK	D06929
6	1	CHAIN LEN. 1000	D01197

H110123__NO



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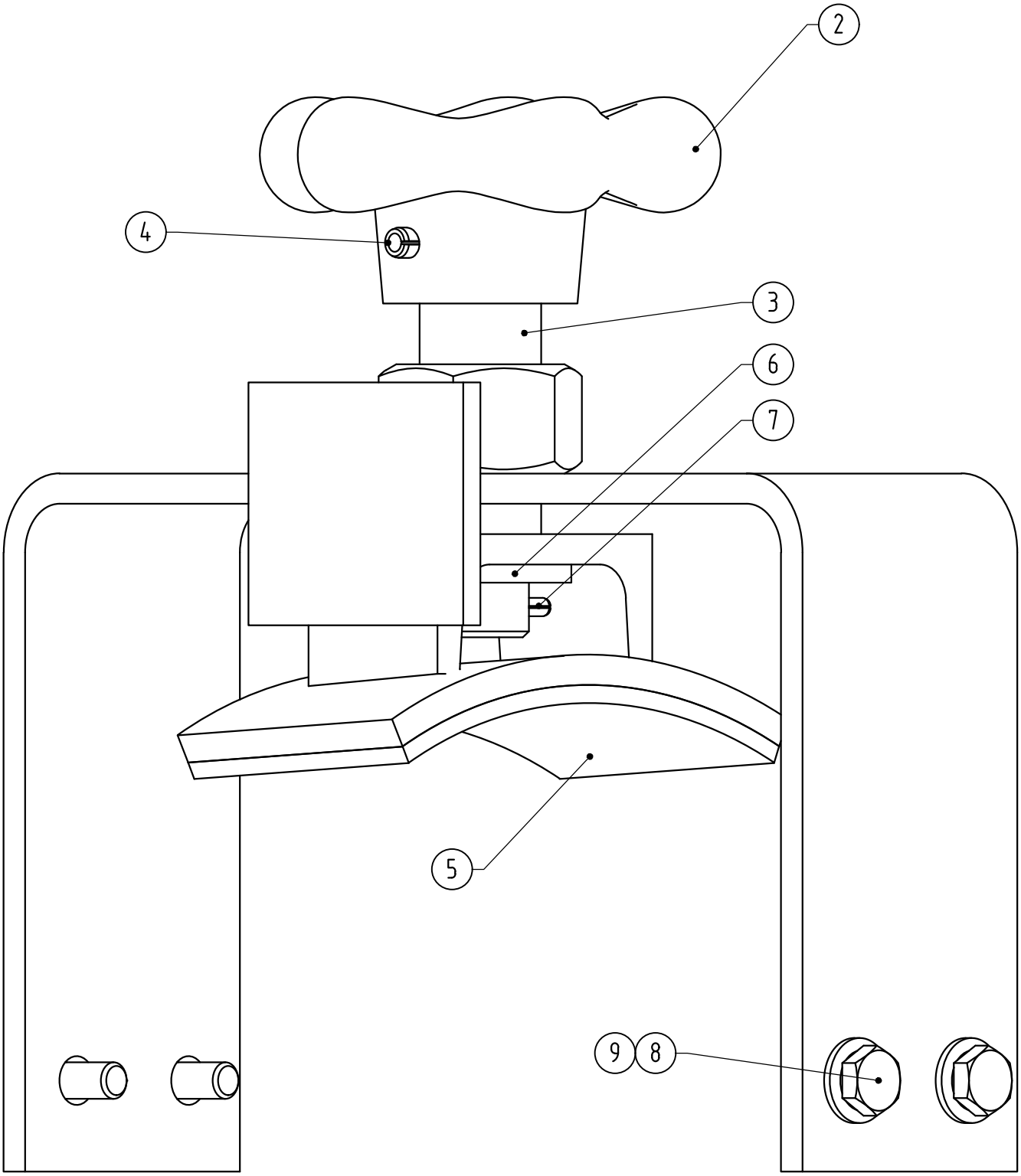
MANUAL PARKING BRAKE H111183_NO

Item	Qty	Description	Code
2	1	KNOB	H38290
3	1	BRAKE SHAFT	H37715
4	1	SPLIT PIN	C01179
5	1	BRAKE SHOE	H82317
6	1	WASHER	C01040
7	1	SPLIT PIN	C01158
8	4	SCREW	C00331
9	4	WASHER	C01816

H111183_NO



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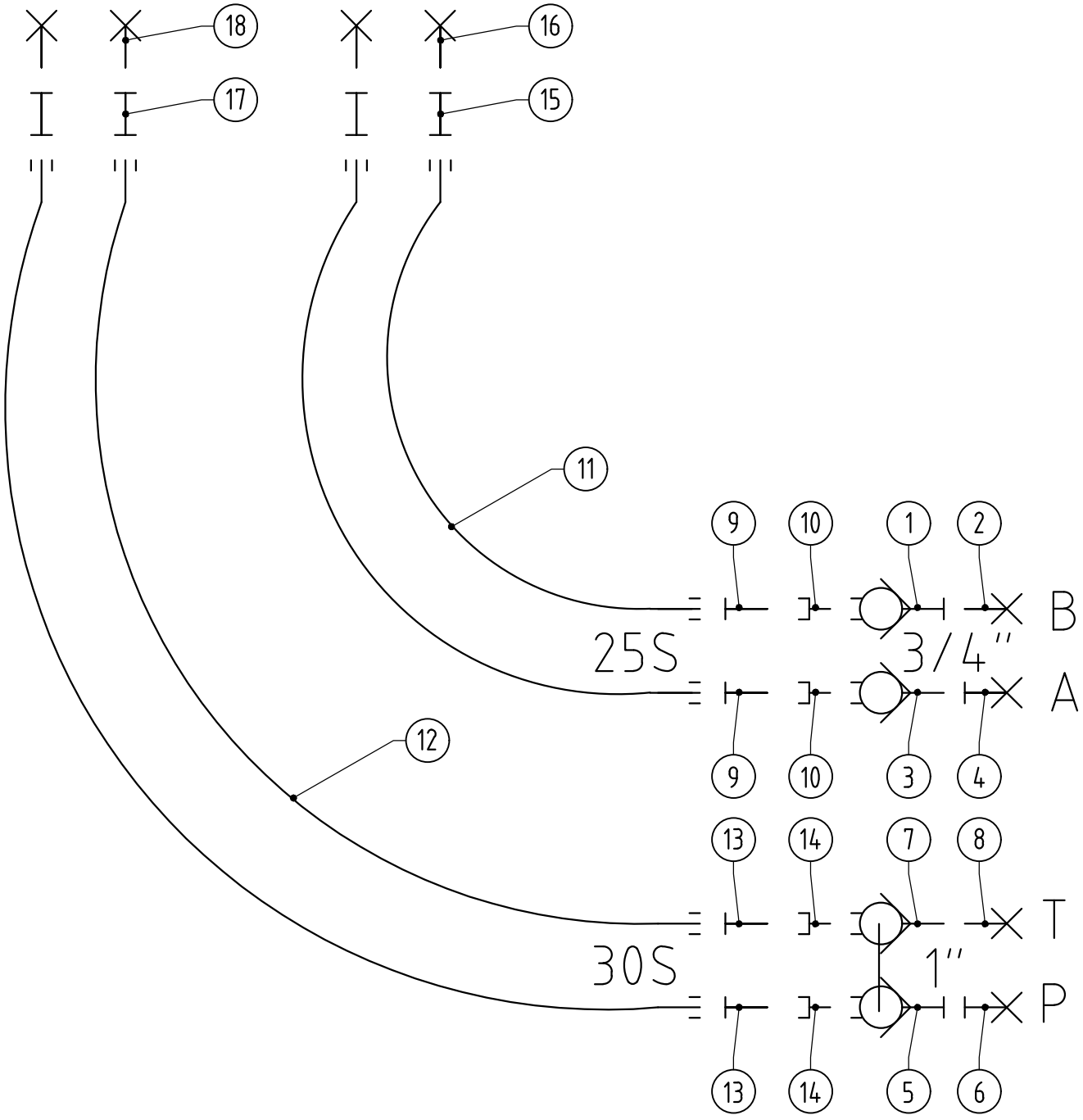
Item	Qty	Description	Code
		HYDRAULIC CONNECTION	**H110213_NO**
1	2	QUICK-RELEASE HALF-COUPLER 3/4"	DD483910
2	2	PLUG	DD483911
3	2	QUICK-RELEASE HALF-COUPLER 3/4"	DD483810
4	2	PLUG	DD483811
5	2	1" FEMALE COUPLER	DD483931
6	1	PLUG	DD483930
7	2	1" MALE COUPLER	DD483830
8	2	PLUG	DD483829
9	4	MALE UNION	D00210
10	4	THREADED REDUCER	D00253
11	2	HYDRAULIC HOSE LEN. 3000	D15634
12	2	HYDRAULIC HOSE LEN. 3200	D19914
13	4	MALE UNION	D00213
14	4	THREADED REDUCER	D13642
15	2	DOUBLE UNION	D00147
16	2	BLANKING PLATE	D00370
17	2	DOUBLE UNION	D00149
18	2	BLANKING PLATE	D20467

H110213_NO



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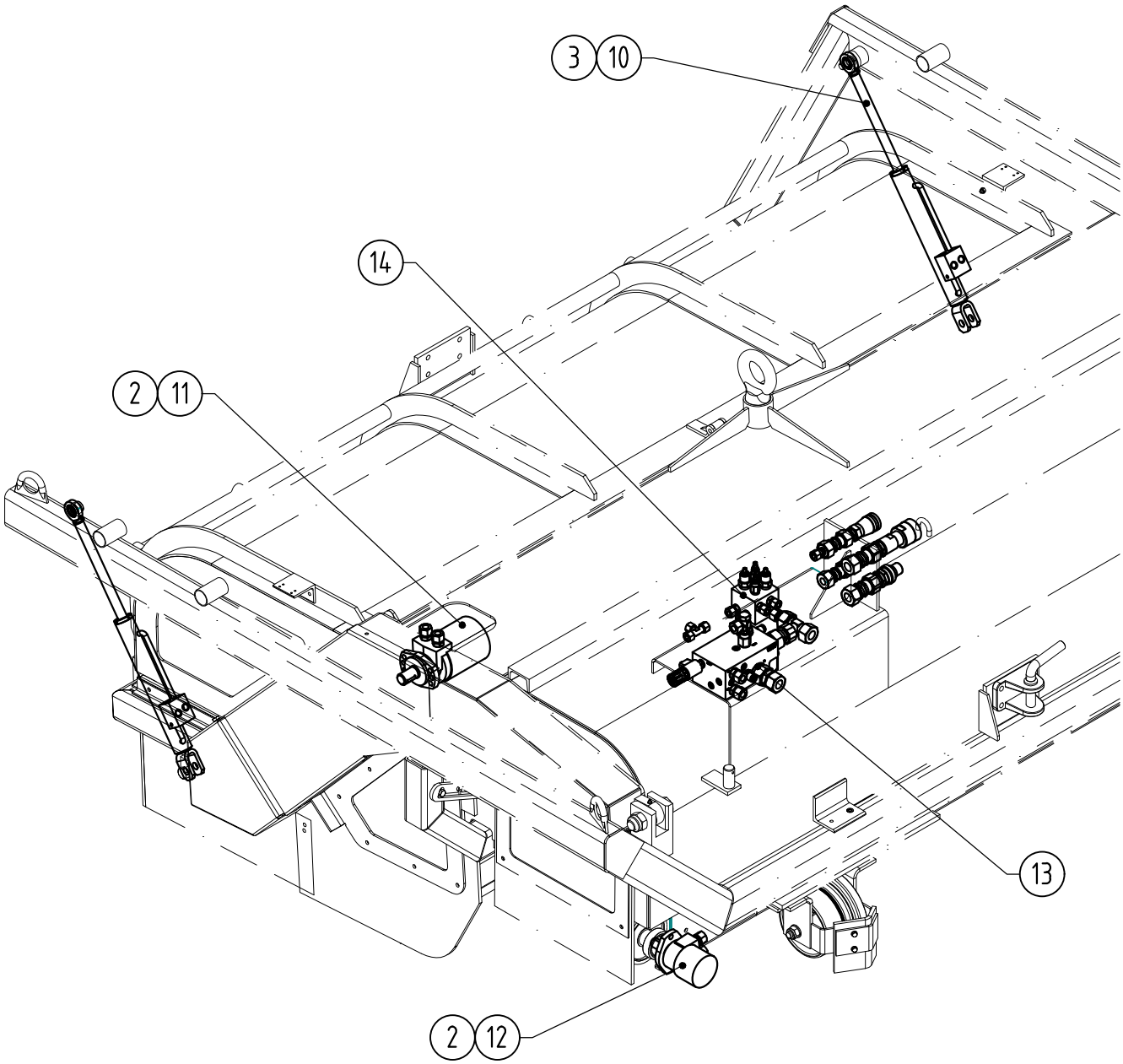
Section B–Hydraulic Components

Item	Qty	Description	Code
		HYDRAULIC EQUIPMENT	**H110203_NO**
1	1	HYDRAULIC DIAGRAM	H110217_NO
2	1	MOTOR HYDRAULIC CIRCUIT	H110218_NO
3	1	BRUSH RAISE/LOWER HYDRAULIC CIRCUIT	H110219_NO
10	2	BRUSH RAISE/LOWER CYLINDER	V10084_NO
11	1	HYDRAULIC MOTOR	D20351
12	1	HYDRAULIC MOTOR	D20352
13	1	FITTED HYDRAULIC UNIT	D20360
14	1	CONTROL UNIT	D19878



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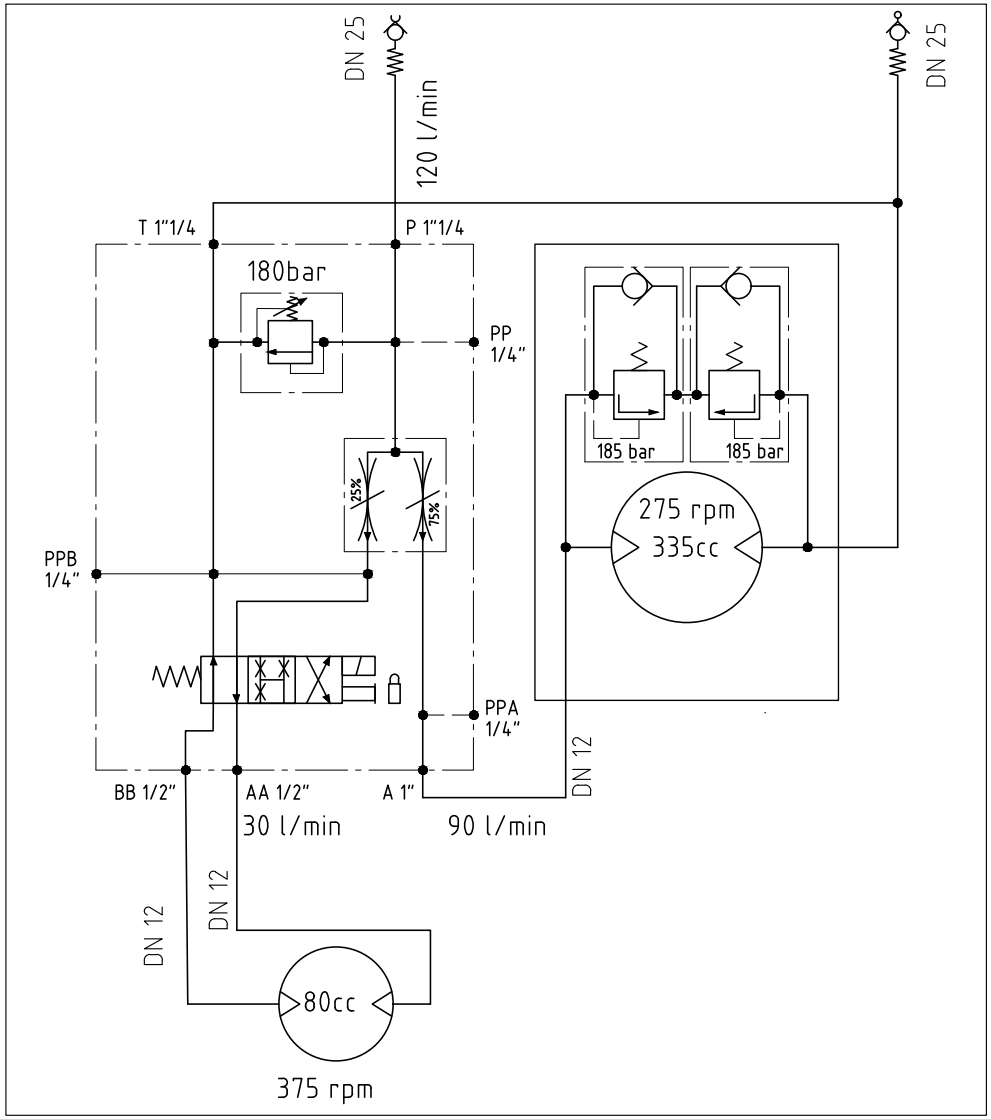
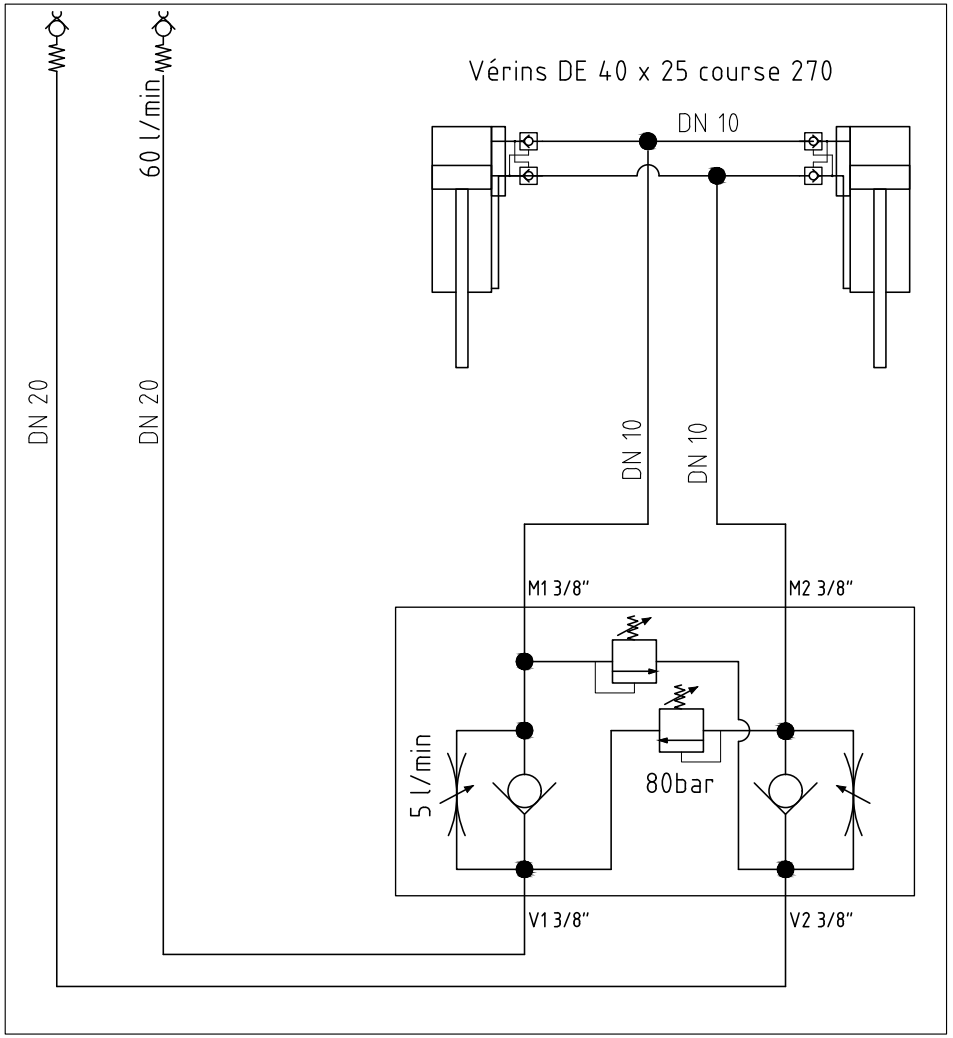
HYDRAULIC DIAGRAM **H110217_NO**

*IF YOUR BRV IS FITTED WITH NEGATIVE BRAKES, REFER TO THE HYDRAULIC DIAGRAM (H111868) FOR OPTIONAL COMPONENTS





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Folio:
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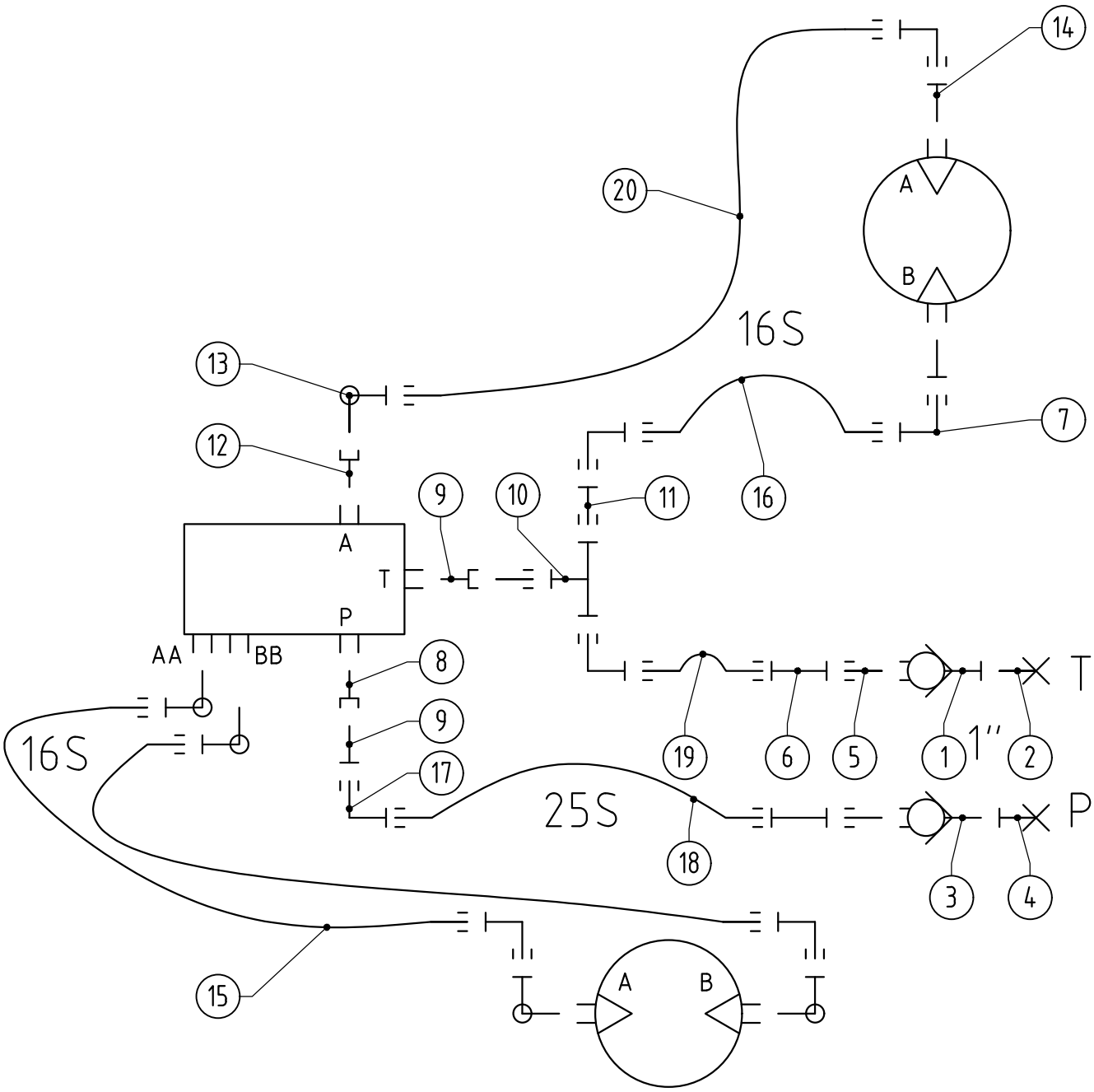
MOTOR HYDRAULIC CIRCUIT H110218_NO

Item	Qty	Description	Code
1	1	FEMALE HYDRAULIC COUPLER	DD483931
2	1	PLUG	DD483930
3	1	MALE COUPLER	DD483830
4	1	PLUG	DD483829
5	3	SWIVELLING COUPLING	D00074
6	2	DOUBLE UNION	D12211
7	5	SWIVELLING BRACKET	D00119
8	1	MALE UNION	D00210
9	2	THREADED REDUCER	D13643
10	1	EQUAL T	D00308
11	1	REDUCER	D00281
12	1	THREADED REDUCER	D00255
13	5	SWIVELLING COUPLING	D00045
14	2	MALE UNION	D00201
15	2	HYDRAULIC HOSE LEN. 1700	D09703
16	1	HYDRAULIC HOSE LEN. 1200	D13482
17	2	SWIVELLING BRACKET	D00123
18	1	HYDRAULIC HOSE LEN. 650	D17747
19	1	HYDRAULIC HOSE LEN. 500	D19323
20	1	HYDRAULIC HOSE LEN. 1100	D13419

H110218__NO



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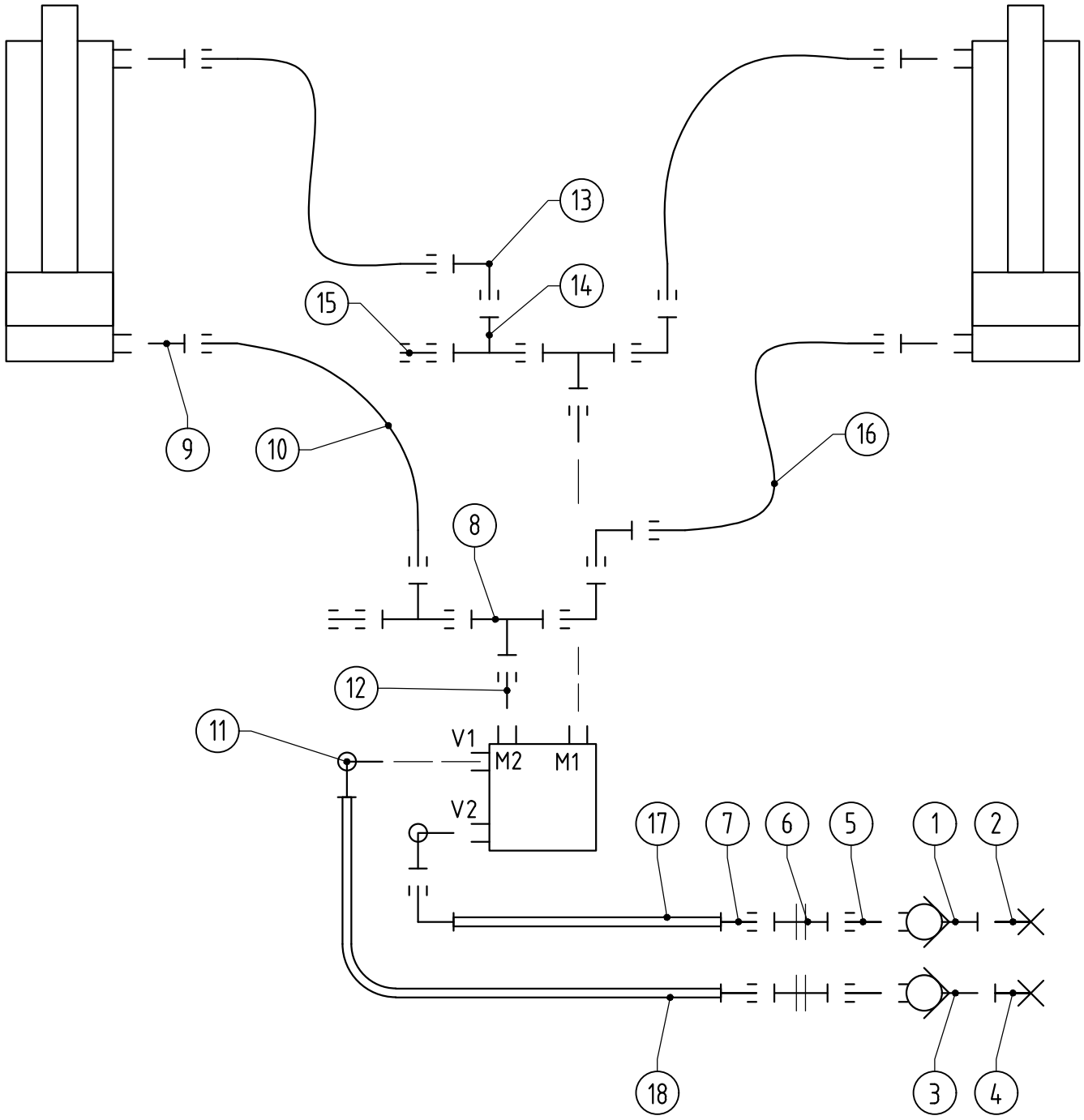
Item	Qty	Description	Code
		BRUSH RAISE/LOWER HYDRAULIC CIRCUIT	**H110219_NO**
1	1	QUICK RELEASE HALF-COUPLER	DD483910
2	1	PLUG	DD483911
3	1	COUPLING	DD483810
4	1	PLUG	DD483811
5	2	SWIVELLING COUPLING	D00071
6	2	DOUBLE UNION	D11520
7	2	REDUCER	D10362
8	2	EQUAL T	D00301
9	4	MALE UNION	D09858
10	2	HYDRAULIC HOSE LEN. 2500	D15566
11	2	SWIVELLING COUPLING	D00042
12	2	SWIVEL COUPLING	D00061
13	5	SWIVELLING BRACKET	D00116
14	2	REVERSED SWIVELLING TEE	D00563
15	2	PRESSURE TAP	D04849
16	2	HYDRAULIC HOSE LEN. 3500	D14031
17	1	HYDRAULIC TUBE	H111331
18	1	HYDRAULIC TUBE	H111330

H110219__NO



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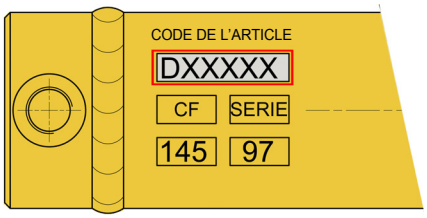
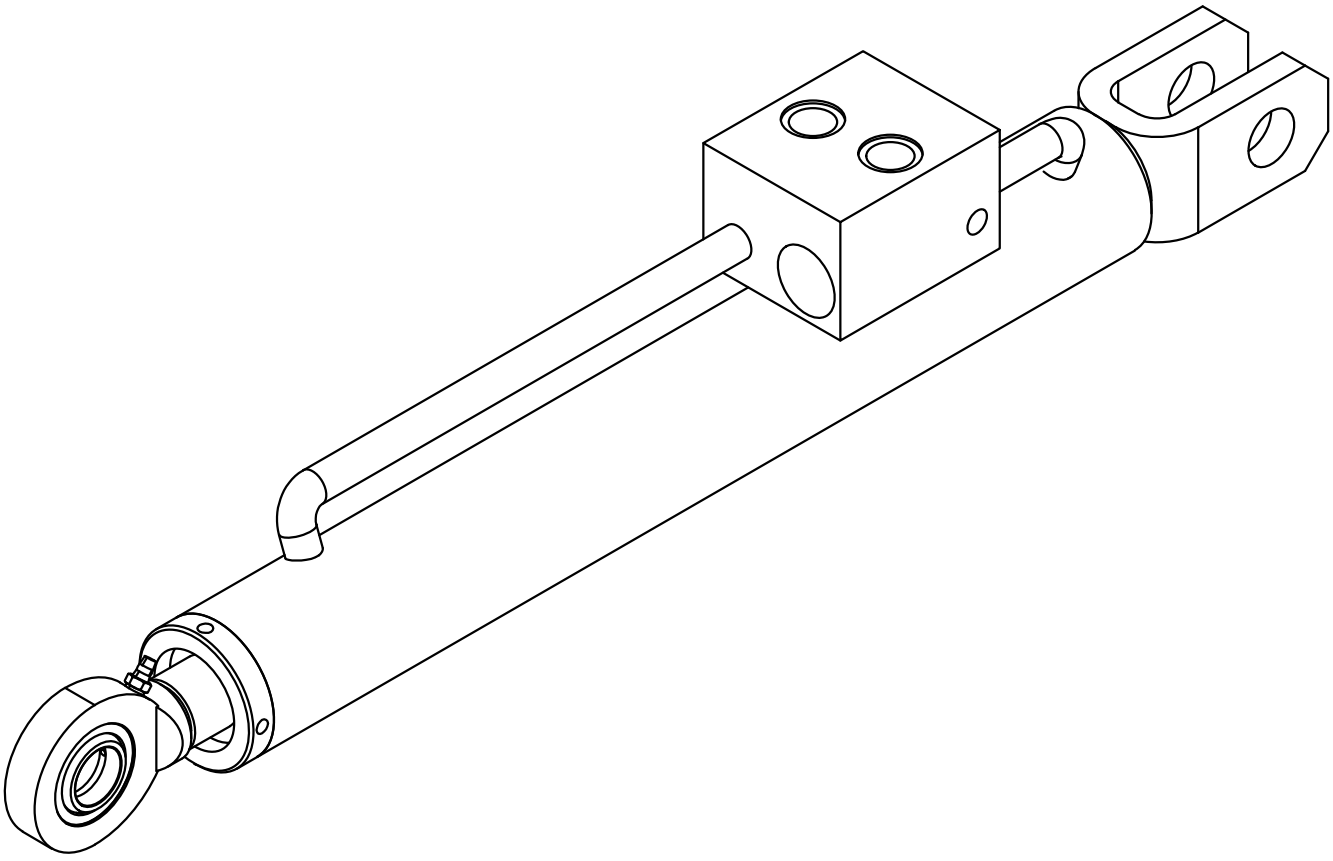
Item	Qty	Description	Code
		BRUSH RAISE/LOWER CYLINDER	**V10084_NO**

NOTA : for cylinders spare parts give the indication of the code number incrusted on the cylinder body, then refer to the following table for reference batches of parts (**A**, **B**, **C**,..)



HYDRAULIC CYLINDER CODE	SET OF SEALS
D20376	D20379

V10084__NO



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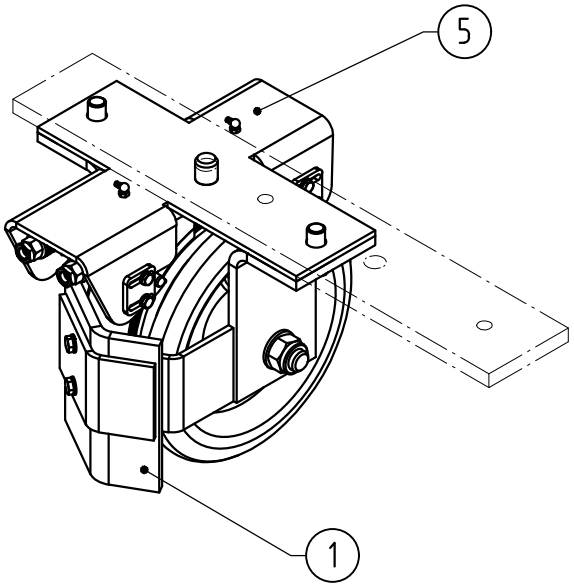
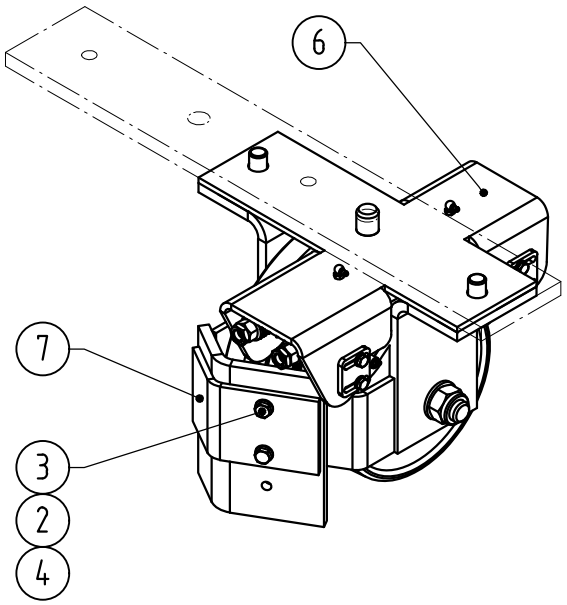
Optional Components

Item	Qty	Description	Code
		NEGATIVE BRAKE ASSEMBLY WITH WHEELS	**H111583_NO**
1	2	PILOT	H110224
2	4	NUT	C02608
3	4	SCREW	C00343
4	8	WASHER	C01036
5	1	NEGATIVE BRAKE ASSEMBLY B	H111826_NO
6	1	NEGATIVE BRAKE ASSEMBLY A	H111831_NO
7	2	SUPPORT	H110201
8	1	HYDRAULIC BRAKE DIAGRAM	H111868_NO





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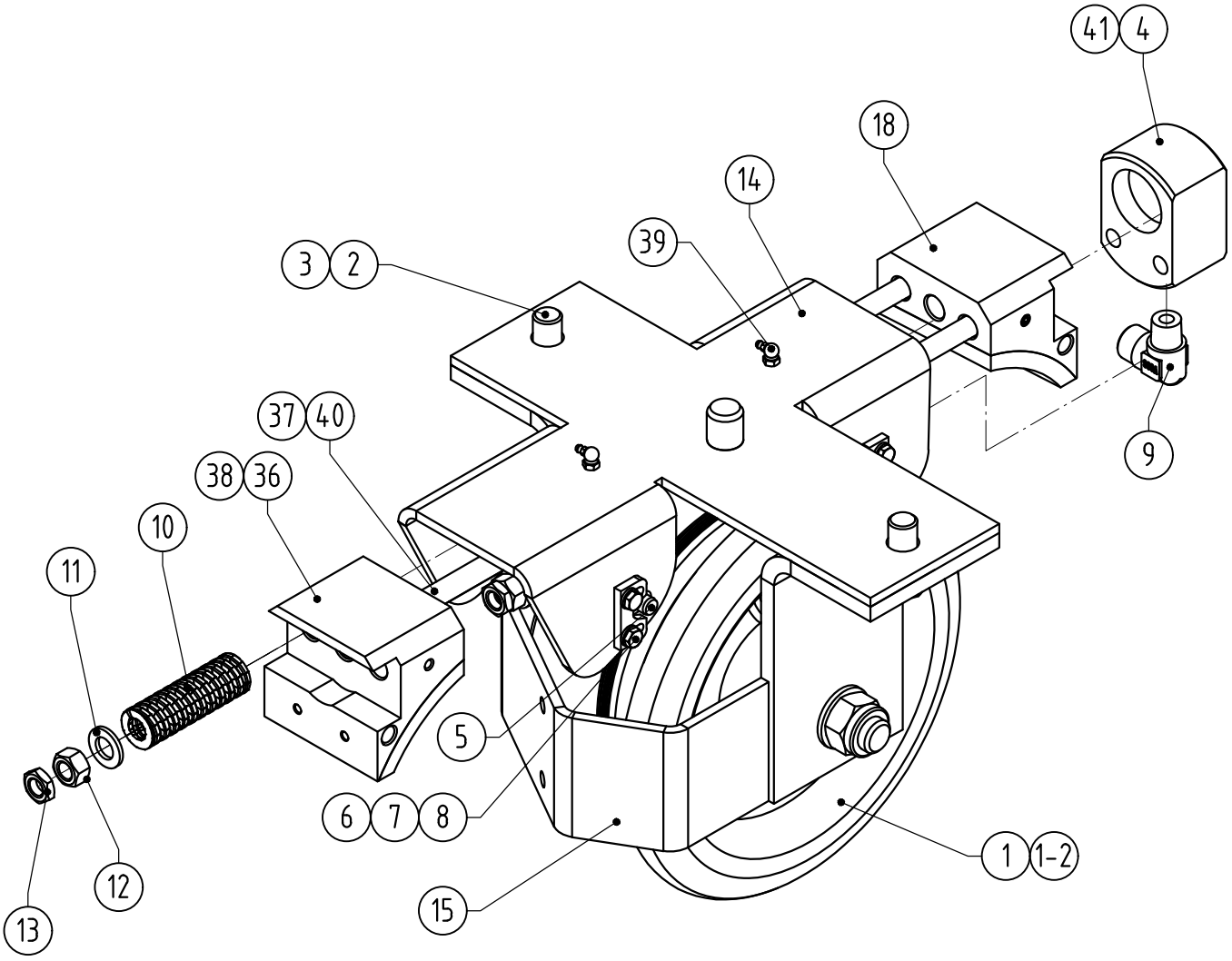
Item	Qty	Description	Code
		NEGATIVE BRAKE ASSEMBLY B	**H111826_NO**
1	1	FITTED WHEEL	H00108
1-2	1	INNER SECTION KIT	H21851
2	2	SCREW	C00393
3	2	WASHER	C01818
4	1	CYLINDER	D20468
5	2	SPLIT PIN	C02667
6	4	ADJUSTABLE STOP	H111830
7	8	WASHER	C01035
8	8	SCREW	C00330
9	1	ADAPTER COUPLING	D20465
10	2	COMPRESSION SPRING	D20469
11	4	WASHER	C01038
12	2	NUT	C00121
13	2	NUT	C00085
14	1	NEGATIVE BRAKE GUIDANCE ASSEMBLY	H111829
15	1	PILOT A	H111828
18	1	ROD BLOCK ASSEMBLY	H111847
36	1	CONVEX BLOCK ASSEMBLY	H111844
37	1	SCREW	C00757
38	4	SCREW	C00776
39	2	GREASE FITTING	D00584
40	1	PUSH ROD	H111823
41	2	SCREW	C02043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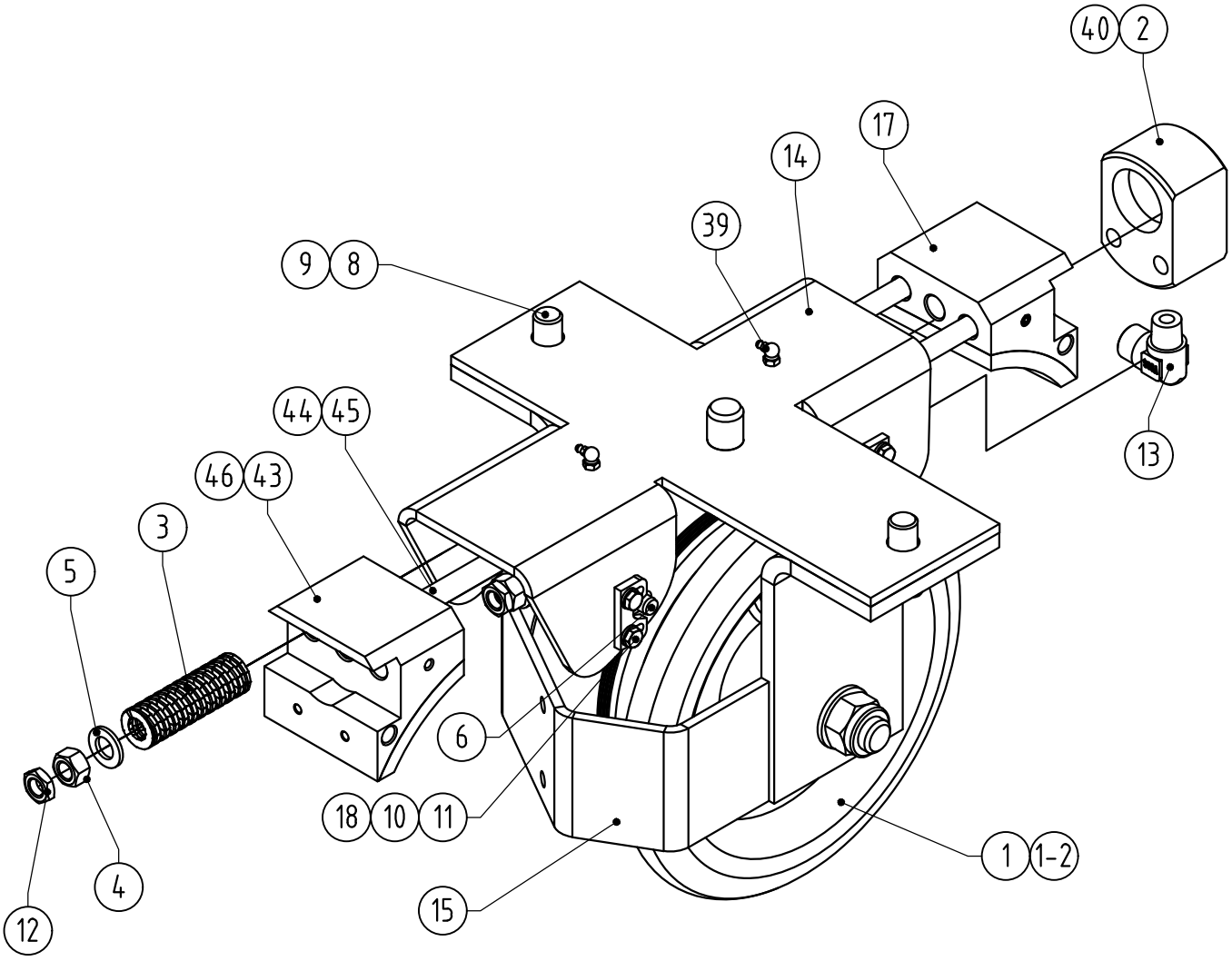
Item	Qty	Description	Code
		NEGATIVE BRAKE ASSEMBLY A	**H111831_NO**
1	1	FITTED WHEEL	H00108
		INNER SECTION KIT	H21851
2	1	CYLINDER	D20468
3	2	COMPRESSION SPRING	D20469
4	2	NUT	C00121
5	4	WASHER	C01038
6	2	SPLIT PIN	C02667
8	2	WASHER	C01818
9	2	SCREW	C00393
10	8	WASHER	C01035
11	8	SCREW	C00330
12	2	NUT	C00085
13	1	ADAPTER COUPLING	D20465
14	1	NEGATIVE BRAKE GUIDANCE ASSEMBLY	H111832
15	1	PILOT B	H111833
17	1	ROD BLOCK ASSEMBLY	H111822
18	4	ADJUSTABLE STOP	H111830
39	2	GREASE FITTING	D00584
40	2	SCREW	C02043
43	1	CONCAVE BLOCK ASSEMBLY	H111843
44	1	SCREW	C00757
45	1	PUSH ROD	H111823
46	4	SCREW	C00776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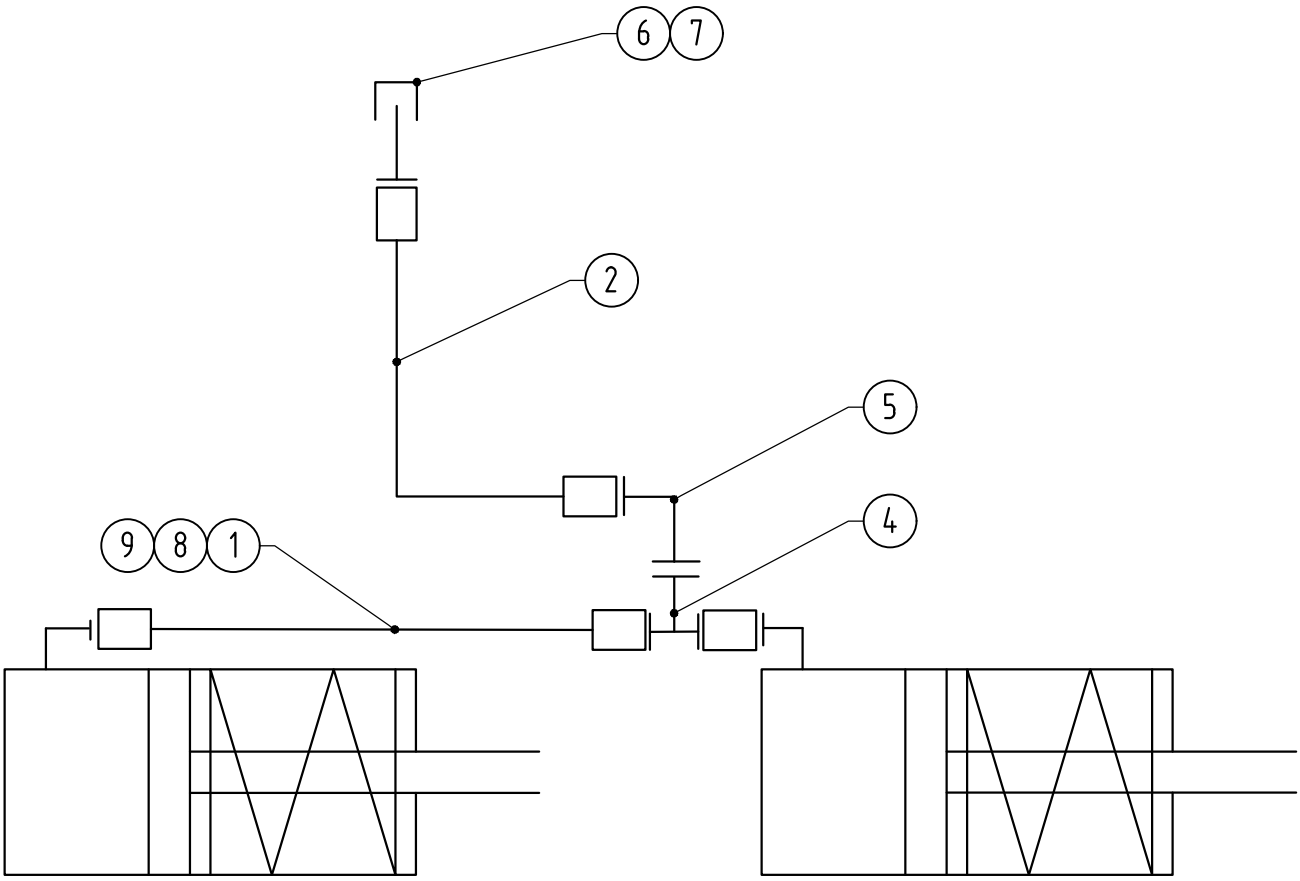
Item	Qty	Description	Code
		HYDRAULIC BRAKE DIAGRAM	**H111868_NO**
1	1	HYDRAULIC HOSE WITH FITTINGS LEN. 2500	D15566
2	1	HYDRAULIC HOSE WITH FITTINGS LEN. 4500	D16213
4	1	REVERSED T	D00563
5	1	SWIVELLING BRACKET	D00116
6	1	MALE UNION	D00190
7	1	PLUG	D19598
8	10	PIPE CLAMP	D00606
9	10	SCREW	C00339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