

Conical splitter PRO for excavator mounting

BSP2500/250 - BSP12000/315



English translation of the original operating instructions
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**Carefully read these operating instructions
before starting up the machine!**

These operating instructions are valid for:

| Type | Article number |
|--------------|-----------------------|
| BSP2500/250 | H2BSP2500 |
| BSP3500/250 | H2BSP3500 |
| BSP3500/315 | H3BSP3500 |
| BSP5000/315 | H3BSP5000 |
| BSP7000/315 | H3BSP7000 |
| BSP12000/315 | H3BSP1200 |

Version of this operating manual: BSP 1.0

Release date: 2014-11

Introduction

These operating instructions offer important information on the operation, maintenance and inspection of your

Conical splitter / ground drill.

One copy of this operating manual must always be kept in the driver's cab. Consult the operating manual regularly and thoroughly, and comply with all instructions.

If you have lost your manual, you may order a new copy from your dealer or directly from the manufacturer.

The performance and availability of your conical splitter / ground drill do not only depend on the device itself, but also significantly on the knowledge of the operating personnel.

Permanent safe operation is only ensured by careful use and maintenance.

Faulty operation and maintenance as well as improper use may result in downtimes and avoidable repair expenses.

It is in your own interest to operate according to this operating manual.

The ability and skills of the operator are of high significance. Frequent exchange of the operators may impair the service life of the device and should thus be avoided.

Performance will be improved if the operating personnel uses the device sensibly and without force.

When ordering spare parts, please observe the ordering instructions at the spare parts chapter. Always provide the type label and the serial number of the device in case of written or telephone enquiries.

Subject to changes due to technical progress.

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1. Declaration of EC Conformity

We hereby declare that this machine, in all its available technical versions, complies with the regulations of Machine Directive 2006/42/EG and with all directly connected standards.

The safety instructions and operating instructions delivered here are valid for this machine.

This machine may not be changed technically. Any change that has not been coordinated with us will make this declaration invalid.

It is forbidden to operate the machine without the belonging protecting devices, because it will no longer comply with the EC directives and because it will lead to a higher risk of injury.

Name and address of the person authorized to compose the technical documentation:

St. Georgen am Fillmannsbach, 2014

Karl Binderberger

CEO / Geschäftsführer

Binderberger Maschinenbau GmbH

Fillmannsbach 9

AT-5144 St. Georgen am Fillmannsbach

2. Safety instructions

2.1 Manufacturer's liability

Basic condition for the safe and failure-free operation of this machine is the knowledge of the basic safety instructions and of the safety directives. These operating instructions and especially the safety rules must be observed by all personnel working with this machine. Additionally, the regulations and prescriptions for accident prevention valid for the site of operation must be kept at all times.

The conical splitter / ground drill has been designed and manufactured according to state-of-the-art technology and safety directives. Nevertheless, the use of this machine may cause danger to life and limb of the operator and of third persons or cause damage to the machine or to other material assets.

Indispensable rules for machine application:

- ✓ Within the scope of designated applications only
- ✓ While in immaculate condition concerning machine safety

Any malfunctions which impair the safe use must be rectified immediately.

The General Terms and Conditions of Binderberger GmbH are valid at all times.

Warranty and liability claims because of personal injury or material damage are excluded if they are caused by one or several circumstances listed hereafter:

- ✗ Improper use of the machine
- ✗ Improper assembly, startup, operation or maintenance of the machine
- ✗ Operating the machine despite defective safety components, or while safety and protection devices have not been installed properly or have been out of order
- ✗ Non-compliance with the advices of the operating instruction concerning transport, storage, assembly, startup, operation, maintenance or setting-up of the machine
- ✗ Unauthorized changes to the structure of the machine
- ✗ Insufficient supervision of machine details which are subject to wear
- ✗ Repair works carried out improperly
- ✗ Disaster caused by the impact of foreign objects or by force majeure



Opening the housing cover will lead to the loss of any warranty or guarantee claim!

2.2 Meaning of symbols and hints

Please observe the meaning of the symbols and hints illustrated hereafter. They are classified according to danger levels and comply with ISO 3864-2.

| DANGER | |
|---|--|
|  | <p><i>Points to an immediately threatening danger. Disregarding this information may lead to death or to most severe injuries (invalidity).</i></p> |
| WARNING | |
|  | <p><i>Points to a possible danger situation. Disregarding this information may lead to death or to most severe injuries (invalidity).</i></p> |
| ATTENTION | |
|  | <p><i>Points to a possible danger situation. Disregarding this information may lead to death or to small / medium injuries.</i></p> |
| ADVICE | |
|  | <p><i>Points to general information, useful operating instructions and handling recommendations, which however do not influence the safety and health of the personnel).</i></p> |

2.3 Meaning of icons

| | |
|---|--|
|  | <i>Carefully read the operating instructions before starting up the machine!</i> |
|  | <i>Always wear ear protection and eye protection during operation!</i> |
|  | <i>Always wear steel-toed safety shoes during operation!</i> |
|  | <i>The machine may be operated by a single person only!</i> |
|  | <i>Trip hazard</i> |
|  | <i>Danger of injury from slipping</i> |
|  | <i>Beware of hot materials!</i> |
|  | <i>Danger from unauthorized startup!</i> |
|  | <i>Fire hazard!</i> |
|  | <i>Lubrication spot</i> |

2.4 General safety instructions

These operating instructions include the most important instructions for the safe use of the conical splitter / the ground drill.

Before starting up the machine, carefully read the operating instructions, and pay special attention to the safety advices.

You must refrain from any operating mode which will endanger the safety at the machine.

The operator is obliged to inspect all safety-related machine parts like protecting components before starting up the machine, and to have any defect rectified before startup.

The operator must verify that no other persons remain within the operating range. Attention: Children are likely to stay within the vicinity of agricultural and construction machines!

As a matter of principle it is forbidden to remove or to deactivate any safety equipment.

The person which has taken over the machine from Binderberger GmbH or from its dealer and has been instructed is authorized to operate the machine and is responsible for the machine and for complying with all safety regulations.

Never leave the machine unattended while it is running.

Use original accessories and spare parts for the machine only – using components from third parties may cause hazards.

Only operate the machine while you are in a good physical and health conditions. See “Required operator qualification” for more information.

Always inspect the complete site before starting operation. Drilling the ground may cause electric shock or explosion from contact with invisible obstacles like electric power cables or gas pipes.

Never operate the machine while parts of it are worn-out, defective or missing. Use original spare parts only.

No persons and no animals are allowed to stay within a diameter of 6 meters around the operating area. Minors are not authorized to operate the ground drill.

Never try to drill deeper than the length of the auger or of the cone is.

2.5 Proper use

The conical splitter has been designed exclusively for use in forestry business: splitting wood trunks. Exceptions are only valid for these original accessory devices: Ground drill and rotating broom. The ground drill has been designed for vertical drilling into the ground.

Any use of the conical splitter and the accessories beyond these purposes is not permitted. In case of any personal injuries and damages resulting from improper use, the responsibility lies with the operator of the machine, not with the producer!

Proper use also includes reading this operating manual and adhering to all information contained here, especially adhering to the safety instructions. Proper use also includes the execution of all inspection and maintenance tasks within the prescribed time intervals.

ATTENTION: The manufacturer will not accept any liability for the use of other accessory devices than the mentioned ground drill and rotating broom. Moreover, Binderberger GmbH will not accept any liability for accessory devices from other manufacturers.

2.6 Required operator qualification

The machine may only be operated by persons which have been trained, instructed and authorized. These persons must be familiar with the operating instructions and must act accordingly. The competence of every operator must be defined clearly.

Apprentice personnel may only start operating the machine under the supervision of an experienced person. Successful and completed training of apprentice personnel should be confirmed in written.

Operating this machine does not require special knowledge from the fields of machine engineering or electric engineering. The operator must however be at least **18 years** old. Before his first use of the machine, the owner of the machine must train and instruct him accordingly. Operating personnel Persons under the influence of alcohol / drugs or medicaments are forbidden to operate the machine.

If the operator must execute maintenance and repair work, but does not have the required technical knowledge and abilities, a suitable repair workshop must be engaged.

2.7 Technical modifications to the machine

For safety reasons, the operator is not authorized to carry out technical modifications to the machine. This is also true for welding work on supporting parts. All planned technical changes must be authorized beforehand in writing by manufacturer Binderberger GmbH.

Only use original spare parts / original wear parts / original accessory parts – these parts have been designed especially for the machine. Using parts from other sources will not guarantee that they have been designed and manufactured according to the occurring stress and the required safety level.

Parts and optional equipment which have not been delivered by Binderberger GmbH also have no approval from the manufacturer for use with the machine, as long as no individual written approval has been issued by Binderberger GmbH.

3. Description of the machine

3.1 Technical data

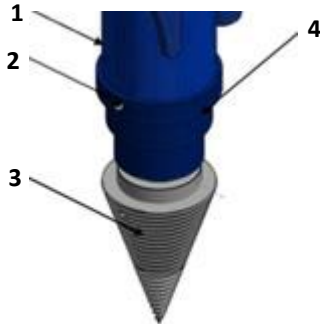
| Carrier (excavator) in tons | 1.5 – 2.5 | 3 - 5 | 4.5 - 8 | 8 - 9 | 8 - 15 |
|--|-----------|------------------------|----------------|----------------|----------------|
| Cone drive model | BSP2500 | BSP3500 | BSP5000 | BSP7000 | BSP12000 |
| max. torque (Nm) | 2,840 | 3,614 | 5,050 | 6,820 | 12,610 |
| max. pressure (bar) | 205 | 240 | 240 | 260 | 240 |
| Hydraulic circulation (l/min) | 27 - 65 | 40 - 85 | 40 - 95 | 50 - 115 | 70 - 150 |
| Shaft size (mm or inch) | 2" HEX | 75mm 4-Kant | 75mm 4-Kant | 75mm 4-Kant | 75mm 4-Kant |
| Weight of drive (kg) | 73 | 130 | 130 | 130 | 188 |
| Splitting cone: \varnothing x L (mm) | 250 x 380 | 250 x 380 315 x 480 | 315 x 480 | 315 x 480 | 315 x 480 |

3.2 Operating mode

The conical splitter represents a machine which is attached to an excavator and which is driven hydraulically. Oil and working pressure are supplied by the excavator's hydraulic system.

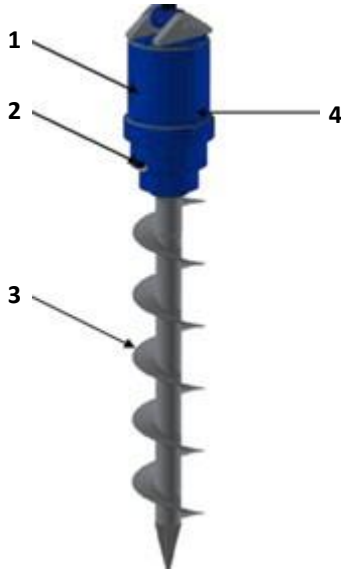
Due to the rotating movement, the splitter cone enters the wood trunk and finally splits it up.

3.3 Structure of the splitter cone




| Item no. | Description |
|----------|-----------------|
| 1 | Housing |
| 2 | Oil drain screw |
| 3 | Splitter cone |
| 4 | Planetary gear |


3.4 Structure of the ground drill



| Item no. | Description |
|----------|-----------------|
| 1 | Housing |
| 2 | Oil drain screw |
| 3 | Drilling auger |
| 4 | Planetary gear |

4. Installing and connection

| DANGER | |
|---|--|
|  | <ul style="list-style-type: none">• <i>Make sure that the carrier vehicle is parked on levelled ground and that the parking brake is active.</i>• <i>The drive motor must remain OFF as long as any person stays within the danger zone of the splitter / drill.</i>• <i>Verify whether the receiving supports on the carrier vehicle match the splitter / drill drive connection surface, and that both elements are undamaged and clean at the moment of coupling.</i> |

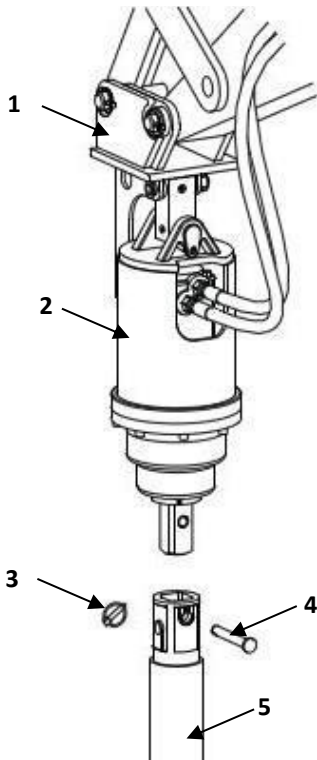
| WARNING | |
|---|--|
|  | <ul style="list-style-type: none">• <i>Never couple or uncouple hoses that are under pressure!</i>• <i>Hoses which will be under pressure must not be installed running through the operator's cab! If this situation can not be avoided, the hoses must be installed in a way that they can not injure the operator in case of bursting!</i> |

4.1 Installing the splitter drive

1. Connection to the carrier vehicle must be performed according to the operating instruction of the support on the carrier vehicle (use a suitable lifting equipment if necessary).
2. Couple the supply and the return hose of the splitter drive properly to the corresponding connections on the carrier vehicle and verify them for tight fit.

4.2 Assembly and disassembly of the accessories

1. Deploy the accessory and prevent it against tilting over
2. Position the drive connection of the carrier vehicle vertically exactly above the receiving element; slowly lower the drive connection into the receiving element until the horizontal boreholes of the drive connection and of the receiving element are exactly at the same height.
3. Attach the accessory safely by entering the plug-in bolt into the horizontal boreholes and by securing the bolt with a cotter pin.



1 = Carrier vehicle

2 = Drive gear


3 = Cotter pin


4 = Plug-in bolt

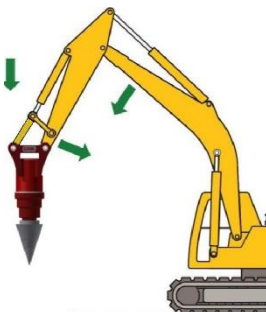
5 = accessory (conical splitter,
ground drill, rotating broom)

5. Installation, startup, operation

5.1 Conical splitter

| DANGER | |
|---|--|
|  | <p style="text-align: center;"><u>Danger to life in case of disregard!</u></p> <ul style="list-style-type: none"> • <i>No persons area allowed within the operating range of the conical splitter and close to moving components!</i> • <i>Start operating the conical splitter only after proper assembly has been verified!</i> |

| WARNING | |
|---|---|
|  | <p style="text-align: center;"><u>Possible machine damage in case of disregard:</u></p> <ul style="list-style-type: none"> • <i>Verify whether the proper hydraulic hoses have been applied and connected tightly!</i> • <i>Verify the proper starting position of the drive:</i> <ul style="list-style-type: none"> • <i>The drive is exactly in vertical position.</i> • <i>Let the drive run at 30% of standard working pressure for some 20 minutes in both directions before applying the complete operating pressure</i> • <i>Never let the cone enter the wood trunk deeper than the height of the cone itself!</i> |




The splitting process:


- Slowly lower the lifting arm / outrigger to apply pressure to the cone (the harder the wood, the more pressure is required).
- Apply a steady drilling speed. Avoid repeated standstill of the cone by excess pressure, because it will lead to machine damage.




After the end of operation deposit the cone horizontally on the ground – don't keep it in vertical position!

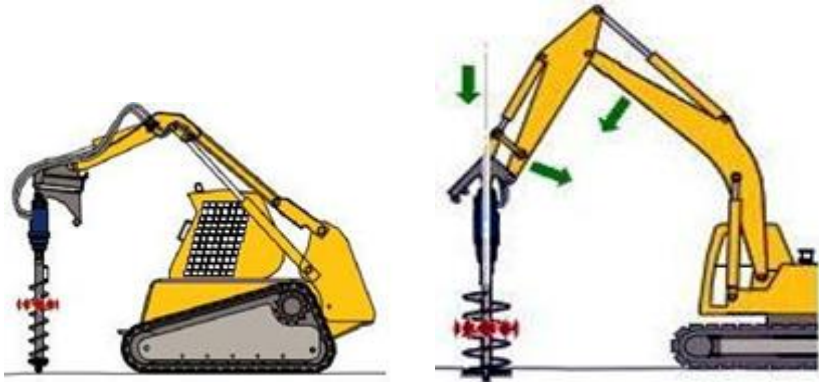
5.2 Ground drill

| WARNING | |
|---|--|
|  | <p style="text-align: center;"><u>Possible machine damage in case of disregard:</u></p> <ul style="list-style-type: none">• Verify whether the proper hydraulic hoses have been applied and connected tightly!• Verify the proper starting position of the drive:<ul style="list-style-type: none">• <i>The drive is exactly in vertical position.</i>• <i>Let the drive run at 30% of standard working pressure for some 20 minutes in both directions before applying the complete operating pressure</i>• After the end of operation deposit the ground drill horizontally on the ground – don't keep it in vertical position!• Never let the auger enter the ground deeper than the height of the auger itself! |

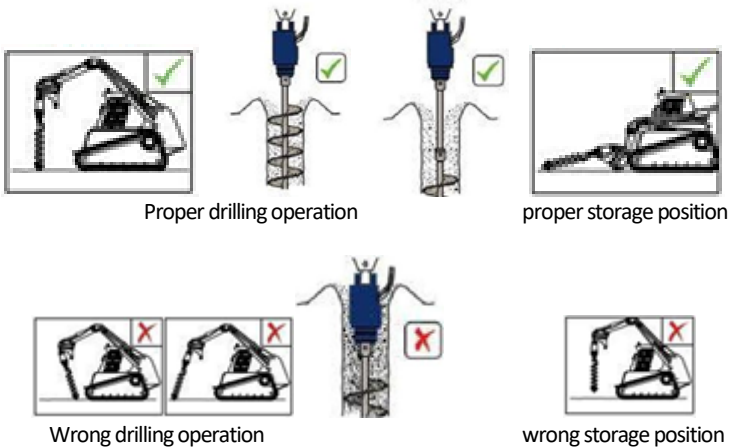
| WARNING | |
|---|--|
|  | <p style="text-align: center;"><u>Danger to life in case of disregard!</u></p> <ul style="list-style-type: none">• No persons area allowed within the operating range of the drill and close to moving components!• Start operating the ground drill only after proper assembly has been verified! |

| ADVICE | |
|---|---|
|  | <p style="text-align: center;">Drilling performance can be improved by</p> <ul style="list-style-type: none">• Vertical drill position• Emptying the borehole by repeated lifting the ground drill (also prevents the machine from becoming unstable) |


Drilling operation





- Make sure that during drilling operation the auger will always turn clockwise!
- Slowly lower the lifting arm / outrigger to apply pressure to the auger (the harder the ground, the more pressure is required).
- Apply a steady drilling speed. Avoid repeated standstill of the auger by excess pressure, because it will lead to machine damage




5.3 Safety instructions concerning operation

| • ATTENTION | |
|---|---|
|  | <p style="text-align: center;"><u><i>Stumbling / tripping on objects lying about!</i></u></p> <ul style="list-style-type: none">• <i>Remove all objects that are not part of the machine from its vicinity.</i> |

| • ATTENTION | |
|---|---|
|  | <p style="text-align: center;"><u><i>Danger of injury during operation!</i></u></p> <ul style="list-style-type: none">• <i>The machine must be operated by a single person only!</i>• <i>Make sure that no further persons stay within the machine's operating area!</i> |

| ADVICE | |
|--|--|
|  | <ul style="list-style-type: none">• <i>Get information about the proper measures in case of malfunctions before you start up the machine.</i>• <i>Before the operator leaves the machine unattended, he must turn it off and secure it against inadvertent restart.</i> |

6. Transport


| DANGER | |
|---|--|
|  | <p style="text-align: center;"><u>Danger of grave injury from freely swinging machine!</u></p> <ul style="list-style-type: none">• <i>When the machine is installed on the carrier vehicle, it can swing freely during transport. This represents a danger of grave injuries or severe damage!!!</i> |

6.1 Transport within the site of operation

Always move the carrier vehicle slowly at the site of operation, and pay special attention so the ground drill will not swing out.


6.2 Transport on public roads ect.


Before transporting the machine with drive unit on public streets, dismount it from the carrier vehicle.


| WARNING | |
|--|---|
|  | <p style="text-align: center;"><u>Danger of damage to the machine in case of non-observance!</u></p> <ul style="list-style-type: none">• <i>After you have dismounted the machine with drive unit from the carrier vehicle, you must store it safely; this is especially important for the hydraulic hoses and their couplings.</i> |


7. Maintenance


7.1 Safety instructions concerning maintenance

| DANGER | |
|---|--|
|  | <p style="text-align: center;"><u>Danger of severe injury by starting the drive during maintenance work!</u></p> <ul style="list-style-type: none">• Turn the machine OFF!• Secure the machine against restart!• Make sure that the machine stands firmly! |

| DANGER | |
|---|---|
|  | <p style="text-align: center;"><u>Fire and explosion hazard!</u></p> <ul style="list-style-type: none">• It is strictly forbidden to handle fuel and / or lubricants in the vicinity of open fire (like cigarettes, open flames, electric sparks etc.). |

| ATTENTION | |
|---|---|
|  | <p style="text-align: center;"><u>Danger of slipping because of oil residue during maintenance work (oil exchange)!</u></p> <ul style="list-style-type: none">• Use a suitable collecting bin.• Remove spilled oil immediately. |

| ATTENTION | |
|---|--|
|  | <p style="text-align: center;"><u>Danger of injury: Scalding on hot machine components and media!</u></p> <ul style="list-style-type: none">• <i>Before starting any repair work let the machine cool down to ambient temperature.</i> |


| ATTENTION | |
|---|--|
|  | <p style="text-align: center;"><u>Lubricants are poisonous and potentially carcinogenic!</u></p> <ul style="list-style-type: none">• <i>Avoid skin and eye contact!</i>• <i>Do not swallow or inhale!</i>• <i>Use proper protecting equipment (protecting gloves, eye protection)!</i> |

ADVICE



- *Use original spare parts only.*
- *Make sure that suitable collecting bins are available for any groundwater endangering media (removed oils, cooling agents).*
- *Use the specified operating materials only.*
- *Self-securing bolts and nuts must always be replaced.*
- *All operating media which cannot be reused must be disposed according to the valid environmental regulations.*
- *Severe damage to the machine can result when installing wrong spare parts or wear parts.*
- *Never release the machine for operation without all safety installations provided by the manufacturer being available.*
- *It is strictly forbidden to remove safety instructions and safety installations from the machine.*
- *If an information label on the machine is no longer legible you must replace it.*
- *Always observe the warning instructions attached to the machine. They help avoiding danger situations.*
- *Do not execute repair work if you do not possess the required qualification => engage a suitable repair workshop.*

7.2 Daily maintenance

| WARNING | |
|---|---|
|  | <p style="text-align: center;"><u>Danger of injury from hidden danger!</u></p> <ul style="list-style-type: none">• <i>Check the machine for possible damage or modifications before starting it up!</i> |


Pay special attention to these details during this inspection:

- Check the machine for loose or dangling parts
- Check the hydraulic hoses and couplings for damaged spots
- Make sure that no other persons remain within the operating range of the machine.
- Check whether all protecting devices are installed and in immaculate condition.
- Check the machine for possible modifications.


7.3 Maintenance intervals


- The gearbox housing of the drive unit is sealed. It is filled with gearbox oil, lubricating the elements of the planetary gear and the bearings within the housing.
- The drive unit only requires little maintenance. To assure the failure-free operation of the machine, you are required to execute regular visual control for oil leaks and to observe the maintenance schedules.
- The drive unit of your conical splitter / ground drill has been filled with gearboyl oil by the manufacturer. To extend the service life of your machine, this oil must be changed at fixed intervals. Observe the data of this schedule:

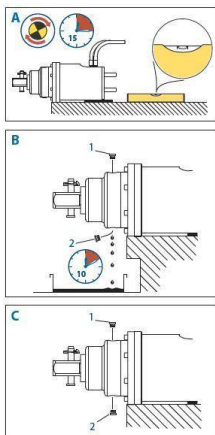
| Machine | First oil exchange after startup | Following oil changes |
|---------|----------------------------------|------------------------------|
| 2500 | After 3 months or 200 op. hours | Every 12 months or 800 hours |
| 3500 | After 3 months or 200 op. hours | Every 12 months or 800 hours |
| 5000 | After 3 months or 200 op. hours | Every 12 months or 800 hours |
| 7000 | After 3 months or 200 op. hours | Every 12 months or 800 hours |
| 12000 | After 2 months or 120 op. hours | Every 12 months or 720 hours |

| ADVICE | |
|--|---|
|  | <p><i>IMPORTANT: In order to maintain product warranty, your dealer must provide evidence of the first oil exchange!</i></p> |

7.4 Oil replacement

| ADVICE | |
|---|---|
|  | <ul style="list-style-type: none"> • Before starting any maintenance work, carefully read the instructions and make sure that you have the proper tools, materials and safety measures at hand. • New machine drives are delivered with oil of viscosity class 320 (unless otherwise requested). • If you operate the machine at temperatures lower than 15°C / 5 °F, oil of viscosity class 150 must be used. • At temperatures above +35°C / 95°F, oil of viscosity class 460 must be used. |


| | |
|---|--|
|  | <p><i>The work steps described hereafter must be executed by a competent and well-trained technician!</i></p> |
|---|--|




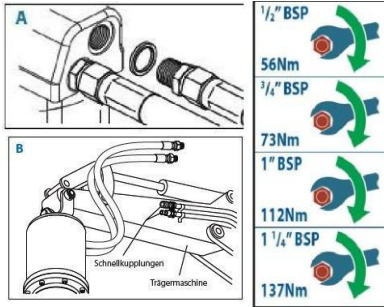
1. To warm up the oil, let the machine drive run for some 15 minutes (illustration A).
2. Make sure that the machine drive is in a stable horizontal position, the filling plug (B-1) must be on top, the drain plug (B-2) at the bottom.
3. Use a suitable tool to open both plugs, and let the oil run out for at least 10 minutes (illustration B) – or even overnight.
4. Install the drain plug with seal ring again, then fill new oil. See the chart below for correct types and quantities.
5. Install the filling plug with seal ring again (illustration C-1). Check the machine for possible leaks.
6. Refill oil whenever necessary.

| Machine type | Oil quantity (ml) | Oil class | Planetary gear | Oil type |
|--------------|-------------------|-----------|----------------|-------------|
| 25 | 425 | EP 320 | yes | Mineral oil |
| 35 | 1250 | EP 320 | yes | Mineral oil |
| 50 | 1250 | EP 320 | yes | Mineral oil |
| 70 | 1250 | EP 320 | yes | Mineral oil |
| 120 | 1750 | EP 320 | yes | Mineral oil |

7.5 Hydraulic connections

| WARNING | |
|---|--|
|  | <p style="text-align: center;"><u>Danger of injury!</u></p> <ul style="list-style-type: none"> <i>Hydraulic oil under pressure can endanger skin and eyes, resulting in injury, blindness and even death.</i> <i>Oil leakages under pressure may not be obviously visible. Use a piece of carton or wood when analyzing a leak. Do not touch it with your bare hands.</i> <i>If oil penetrates the skin, it must be removed as soon as possible. Consult a doctor immediately.</i> |

| WARNING | |
|---|--|
|  | <p style="text-align: center;"><u>Danger of damage to the machine</u> <u>in case of non-observance!</u></p> <ul style="list-style-type: none"> <i>Always make sure that the oil supply remains within the flow quantities and the pressure prescribed for this machine drive (for details see page 14).</i> |



- All drilling and splitting drives require an additional 2-way hydraulic component from the carrier vehicle for proper functioning.
- Whenever you connect hoses, you must fasten them with the proper torque (see illustration A)

- Quick couplings are required for the connection with the carrier vehicle, but they are not in the scope of delivery of the machine drive. Please supply the proper couplings for your carrier vehicle locally (illustration B)
- The quick couplings of the carrier vehicle are usually situated at the end of the lifting arm, the dipper arm or the crane outrigger.
- Make sure that the machine drive will rotate clockwise.

7.6 Cleaning

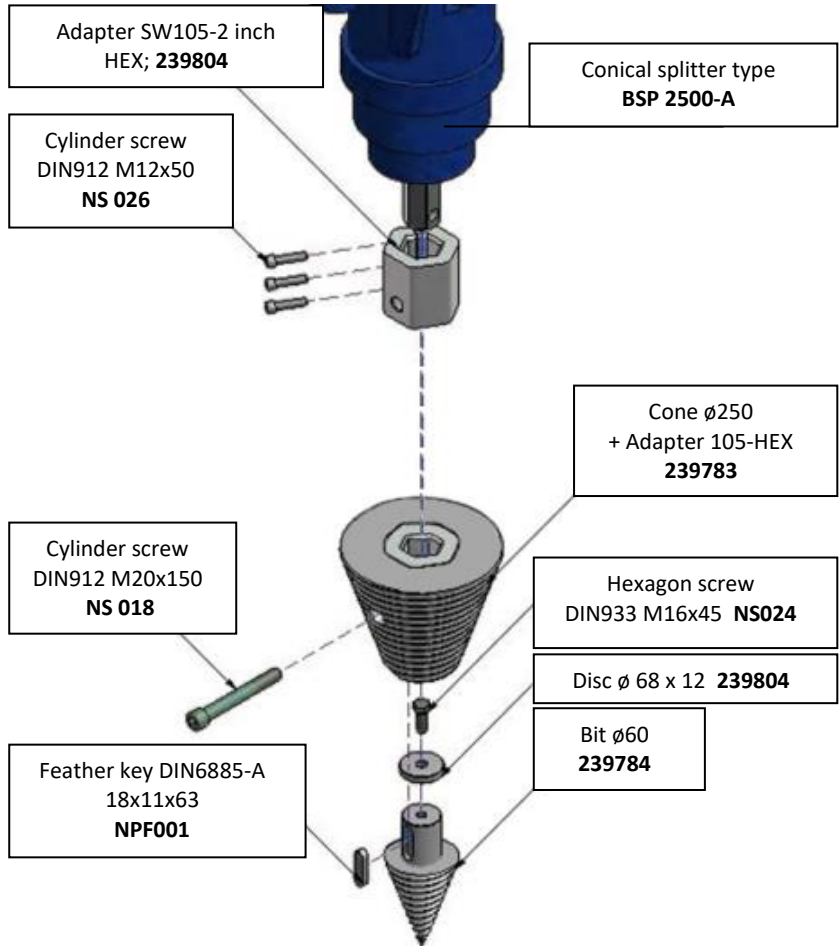
Remove all dirt and residue from the machine after every operation run and before maintenance work!

| ADVICE | |
|---|---|
|  | <ul style="list-style-type: none"> • <i>During cleaning always check the machine for visible damage.</i> • <i>Repair or organize the repair of damage if necessary.</i> |

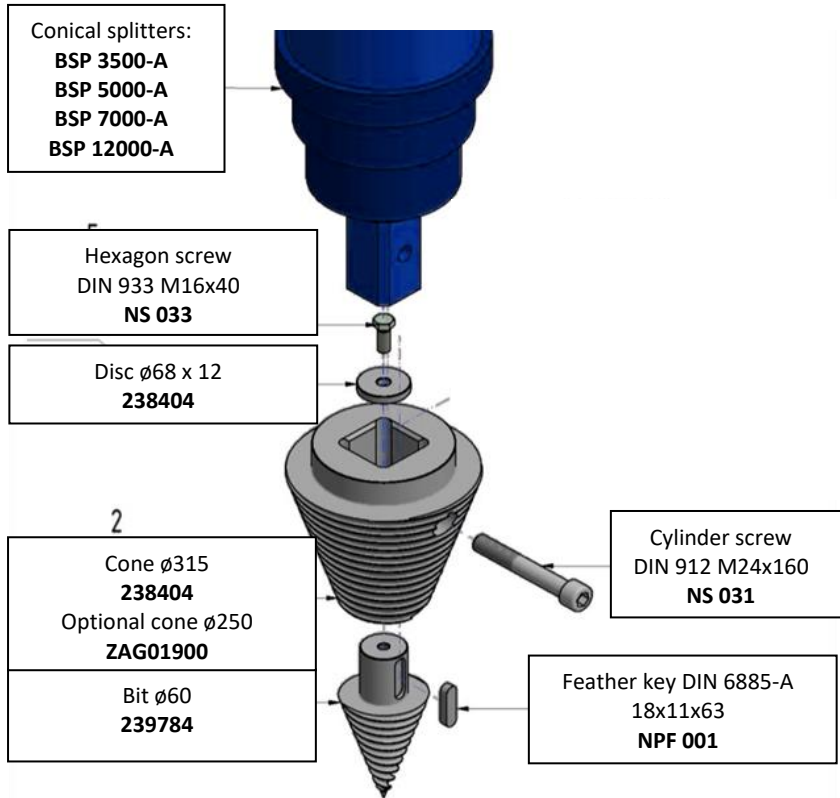
8. Spare parts

8.1 Conical splitter

8.1.1 Conical splitter type 2500



8.1.2 Conical splitter types 3500 - 12000



8.2 Drill auger



S4
Tungsten
Zentrierspitze
33-9204-KIT
Centering bit



S4
Extra Dig
Zentrierspitze
33-9212-KIT
Centering bit



S4 Shock Lock™
Flacher
Tungstenzahn
33-9124-KIT
Flat Tungsten cog



S4 Shock Lock™
Flacher Tungsten
Meißelzahn
33-9123-KIT
Flat chisel cog



S4 Shock Lock™
Tungstenzahn
33-9122-KIT
Tungsten cog



S4 Shock Lock™
Tungsten
Meißelzahn
33-9125-KIT
Tungsten chisel cog



S5/6
Tungsten
Zentrierspitze
33-9206-KIT
Centering bit



S5/6 Shock Lock™
Tungstenzahn
33-9127-KIT
Tungsten cog




S5/6 Fels
Zentrierspitze
33-9207-KIT
rock cog

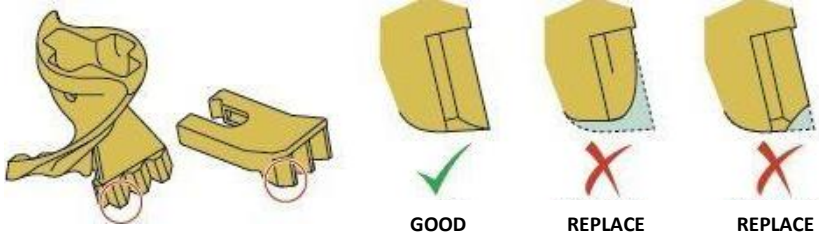



S5/6
Felszahn
33-9107
rock cog

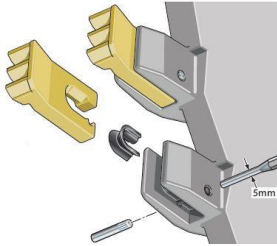
9. Replacing the auger cogs

| ADVICE | |
|---|--|
|  | <p>The cogs on the auger represent wear parts. You must examine them regularly, and replace them if they are worn out. See the wear degrees in the illustration below.</p> |

Tungsten cogs

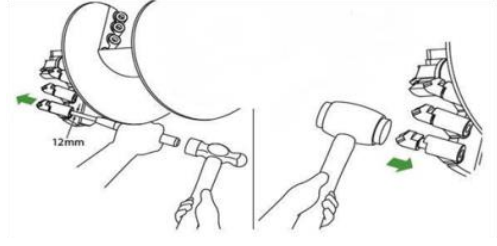


| ADVICE | |
|--|--|
|  | <p>Before you start removing cogs, make sure that the auger is in horizontal position and that the cogs are easily accessible!</p> |



Shock Lock cogs

- Use a 5 mm (0.2 inch) pin punch to remove the fastening pin downwards through the cog holder.
- Now remove the cog and the rubber part.
- First enter the rubber part into the recess of the cog.
- Press the cog with installed rubber part into the cog holder. Make sure that the recess for the pin is at the proper side.
- Enter the fastening pin completely. If necessary use a rubber mallet.



Rock cogs

- Use a 12 mm (0,5 inch) pin punch to remove the rock cog from the rear side.
- When installing a new rock cog, make sure that the flat sections of the cog will fit the cog holder.
- Use a rubber mallet to force the cog into the cog holder.

10. Fault diagnostics and descriptions

| <i>Malfunction</i> | <i>Possible causes</i> | <i>Measures for repair</i> |
|---|--|--|
| Installing the mounting frame | | |
| Mounting frame does not fit the carrier vehicle | Wrong mounting frame or mounting frame is no original part | See the instructions in this manual and in the carrier vehicle manual |
| | Frame parts are damaged or worn out | Repair frame part or replace it by an original mounting frame |
| Operating the mounting frame | | |
| Excess movement at the fixing bolts | Wrong or worn out fixing bolts | Replace them by new original fixing bolts |
| | Worn out boreholes on the carrier vehicle / on the mounting frame | Consult the dealer of the carrier vehicle |
| | Damaged parts | Consult the dealer of the carrier vehicle Use original spare parts only |
| Installing the drilling drive | | |
| Drilling drive does not fit the mounting frame | Wrong mounting frame / drilling drive or no original part | Organize and install proper and compatible original parts |
| Excess movement at the fixing pins | Fixing pins are damaged | Consult the dealer |
| | Fixing pins are wrong or worn out | Use original spare parts only |
| Operating the drilling drive | | |
| Outside end of the shaft is not rotating | No oil flow available | Check the quick couplings of the hydraulic hoses for proper connection Check the hydraulic system of the carrier vehicle for proper performance, check oil quantity and oil quality |
| | Pressure relief valve of the carrier vehicle is defective or set too low | Reset / replace the valve according to the specification of the carrier vehicle |
| | Drilling drive is stuck | Consult the dealer |
| | Ground drill is stuck in the ground | Lift the ground drill out of the ground before starting the drive |

10. Fault diagnostics and descriptions

| Malfunction | Possible causes | Measures for repair |
|---|--|--|
| Operating the drilling drive | | |
| Slow drilling speed / slow rotation of the outside end of the drive shaft | Insufficient oil circulation from the carrier vehicle | Check the hydraulic system of the carrier vehicle for proper performance, check oil quantity and oil quality |
| | Drilling drive and carrier vehicle are not compatible | Check the specifications Consult the dealer |
| | Wrong ground drill, wrong or worn out drilling cogs / centering bit | Make sure that the size of the auger fits the drilling drive (not too large), that the drilling cogs and centering bit suit the ground conditions and are not worn out |
| | Hydraulic motor of the carrier vehicle is worn out, possible from wrong oil supply or polluted oil | Consult the dealer Use original spare parts only Change the hydraulic oil of the carrier vehicle before mounting a different drive unit |
| Ground drill gets stuck during operation | Pressure relief valve of the carrier vehicle is defective or set too low | Reset / replace the valve according to the specification of the carrier vehicle |
| | Limited oil circulation | Check the hydraulic hoses and their couplings for suitability and possible damage |
| | Hydraulic filter is clogged | Replace hydraulic oil and oil filter at the carrier vehicle |
| | Carrier vehicle applies too much pressure to the ground drill | Reduce the hydraulic pressure |
| | Insufficient oil pressure from the carrier vehicle | Check whether the oil pressure from the carrier vehicle complies with the demands of the drilling drive |
| | Incompatible combination of drilling drive / auger size / carrier vehicle | Check all specifications Consult your dealer |

11. Guarantee, warranty

1.) **Warranty period**

Manufacturer Binderberger Maschinenbau GmbH grants a warranty period of 12 months from the day of delivery to the buyer.

2.) **Scope of warranty**

Warranty covers only parts with defects which can be attributed to material or production faults.

3.) **Steps of warranty claim processing**

- a) Warranty claims must be reported to Binderberger GmbH in written.
- b) Defective parts which should be replaced / repaired under the warranty terms, must be sent after agreement free of charge to Binderberger GmbH for examination.
- c) All replacement and spare parts can be ordered and purchased on the customer's account from Binderberger GmbH.
- d) After Binderberger GmbH or our supplier has examined the case, the customer will receive a written statement and eventually a reimbursement of the incurred expenses.

3.1) **Claim report**

The claim report must arrive within 4 weeks of the occurrence of the defect. Claim reports must be drawn up in written and must include all information required for processing the warranty claim:

- Type designation of the product
- Serial number of the product
- Designation of the defective part
- Type of damage and date of occurrence
- Probable cause of the defect (include photo/s)
- Informationen on the type of operation and on the carrier vehicle

3.2) **Supply of the defective part**

Defective parts must be supplied to Binderberger GmbH free of charge for examination within 2 weeks of the occurrence of the defect.

Binderberger GmbH will not accept warranty claims for rejected parts which could not be sent in or be provided for examination.

4.) **Exclusion of warranty**

Warranty does not cover

- Damage caused by improper installation on the carrier vehicle or on ist hydraulic system, by improper operation, by improper maintenance or during transport.
- Defects caused by repairs which have been executed by unauthorized third parties.
- Defects caused by using spare parts from third parties.
- Consequential damage caused by belated replacement of wear parts.

If repairs or modifications of the machine have been carried out during the warranty period without prior written consent from Binderberger GmbH, warranty and liability claims become void.

5.) **Entitlement to the performance**

Warranty claims only refer to spare or replacement parts, delivery free of charge. No reimbursement for downtimes, loaner equipment or interim machines.

In individual cases we reserve the right to adjust disassembly / assembly hours to the required extent.

Fixed cost rate for disassembly / assembly by third party mechanic / technician: **45.00 € / hour**.

6.) **Special regulations**

Special regulations concerning items 1 – 5 from above must be coordinated in written before signing the purchase contract and must be confirmed in wirtten by Binderberger GmbH. Subsequent special agreements will not be accepted

Dealer's stamp:

Type label:



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