Operating Manual English

BERGMANN Dumper

3012 PLUS

XX-XXX-XXXX-XXX - 04/2015

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Please complete before commissioning the machine:

Type	
Prod. no.	
Year of manufacture	
Commissioning	

Dealer:

Published by:

Bergmann Maschinenbau GmbH & Co. KG
Essener Strasse 7
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Subject to changes.

We reserve the right to make technical changes to the machine or its components without prior notice. There might thus be minor differences between the figures and/or information in this document and your actual model.

Translation of original German operating manual

Table of contents

1. Preface

Dear customer,

To make best use of your Bergmann dumper and to operate it in the safest and most economical manner, please carefully read this operating manual.

It contains important information regarding the design, operation, working functions and operating conditions of the machine as well as instructions for its proper maintenance and care. The operating manual also contains information on occupational safety.

The operating manual contains important instructions for the safe operation of the Bergmann dumper.

2. About this document

Safety instructions are placed in shaded boxes.

A copy of this operation manual must be available at all times at the site of operation of the dumper!

Before starting the machine, all operating personnel must have read and fully understood the content of this document.

The accident prevention regulations of the relevant trade associations and insurance schemes as well as the operating manual of the drive motor form integral parts of this operating manual.

Always comply with all applicable statutory regulations in the country of operation of the machine!

All instructions in this document must be strictly adhered to. This applies in particular to all safety instructions.

Before starting the Bergmann dumper, you must make sure that the machine meets the general safety requirements.

- ⇨ This operating manual is an integral part of the CE documentation of your Bergmann dumper.
- ⇨ For details regarding the engine, please refer to the enclosed operating manual of the engine manufacturer.
- ⇨ All repairs must be carried out by suitably trained specialist technicians.
- ⇨ If maintenance work is not carried out properly and at the prescribed intervals, we are not obliged to meet our warranty obligations as laid down in our Terms and Conditions of Sale and Delivery.

  Use only **original Bergmann spare parts** as they ensure quality of product and exchangeability.

NOTE

The dumper must only be operated when in proper working order and for the intended purpose (see chapter 4)!

Bergmann Maschinenbau GmbH & Co. shall not be liable for damage caused by improper operation or use.

3. Additional information

Please note that we shall not be liable for any damages and operational failures resulting from non-compliance with the instructions in this operating manual.

Working on and with the Bergmann dumper is restricted to qualified and trained personnel.

Diagrams and specifications in this operating manual may be changed by the authors without prior notice. Such amendments might be necessary to reflect changes in technology or in order to improve the safety of the machine and its components.

Always comply with the applicable statutory accident prevention regulations, the recognised technical regulations for safe and proper work, and the operating and maintenance instructions.

4. Intended use

The Bergmann 3012 PLUS dumper is a self-propelled work machine (dumper with articulated frame). It is equipped with one (1) seat for the driver. The driver seat features a lap belt (safety belt).
The Bergmann 3012 PLUS dumper must only be used for the transportation, distribution and unloading/spreading of excavation material (e.g. soil, rocks) and other bulk material. If the machine is used for the transportation of hazardous materials, the relevant safety regulations must be complied with (e.g. type of material, quantity, number of extinguishers to be carried on the vehicle).
Unless the vehicle has been approved for travel on public roads (in Germany: StVZO approval), it must only be used for transportation operations on construction sites. The maximum permissible travel speed with load is limited to 40 km/h.
The Bergmann 3012 PLUS dumper is stable on inclines of up to 20% in axial direction and up to 20% in travel direction.
The tipping trough is designed for the transportation of bulk materials such as sand, stones, soil, etc. to a maximum payload of 12,000 kg (on construction sites) and to a maximum payload of 8800 kg(on public roads).
The tipping trough is designed as a swivel tipping trough and can be swivelled for loading and unloading (tipping) to the right and left to a maximum angle of 90° from the direction of travel.
Proper use of the machine includes compliance with the instructions in this operating and maintenance manual.
Any other use is deemed improper. The dumper manufacturer shall not be liable for damage resulting from improper use.

NOTE

Even when the machine is operated correctly for the intended use, there is always a residual risk, as it is not possible to eliminate every risk to life and limb and/or damage to the machine or other property.

4.1. Possible foreseeable misuse

Operator:

- ⇨ Transportation of person in trough
- ⇨ Loading by volume, ignoring permissible weight
- ⇨ Transportation of hazardous goods without complying with relevant safety regulations
- ⇨ Travel on steep slopes
- ⇨ Loading and transporting of goods that obstruct driver's view
- ⇨ Fast travel, especially when loaded and along bends
- ⇨ Jumping in and out of the driver’s seat (failure to wear a safety belt)
- ⇨ Use of tipped trough as dozer blade
- ⇨ Use of trough to push other vehicles
- ⇨ Towing another vehicle

Personnel:

- ⇨ Transportation of person in trough
- ⇨ Work on dumper while engine is running
- ⇨ Work under unsecured tipped trough

5. Safety

5.1. Safety signs and symbols

Non-compliance might result in serious, irreversible injury

Non-compliance might result in minor, reversible injury

Non-compliance might result in damage to property

Important information

5.2. Emergency actions

⇨ Cordon off site of accident

⇨ Provide first aid

⇨ Alert doctor, rescue services

⇨ Look after casualties

5.3. General safety instructions

Personnel must refrain from work practices that are deemed unsafe.

The Bergmann dumper, hereafter referred to as the dumper, must only be operated when in safe and proper working order.

The safety devices of the dumper must be working properly at all times. Under no circumstances must they be bypassed, disabled or removed.
If the safety devices are not functional or work incorrectly, do not start the dumper.

It is the responsibility of the machine owner to complement these safety instructions with specific instructions relating to local site conditions.

For the operation of the dumper, personnel must wear personal protective equipment as prescribed by the statutory accident insurance regulations and suitable for the site conditions. Such personal protective equipment might include: safety footwear, protective gloves, safety goggles, hard hat, hearing protection, etc.

5.4. Danger area

All persons must keep clear of the danger area around construction machines. The danger area of the dumper is the area in which persons could be injured by working movements of the machine, its attachments or tools, by suspended or attached loads, or by dropping loads or attachments. The machine operator must only start the machine, if no persons are standing in the danger area. In the event of a risk of injury, the machine operator must warn persons (visual or audible signal). If a person does not leave the danger area after a warning signal has been given, the machine operator must stop the machine. If the view of the machine operator (travel path, working area) is obstructed, he/she must engage a guide or banksman or cordon off the travel path/work area with a fixed installation.

5.5. Safety distance

To prevent damage and injury (e.g. from crushing), a safety distance of minimum 0.50 m must be kept between the machine and other objects, such as buildings, formwork, excavation banks, scaffolding and other machinery. If it is not possible to keep this safety distance, the area between the machine's working range and the adjacent object must be cordoned off.

5.6. Machine stability

The dumper must at all times be operated in a manner that does not compromise its stability (no risk of slipping, toppling over or tipping). The stability of the machine might be compromised by: overloading, soft ground, sudden acceleration or movements or work on steep inclines. To ensure that the dumper is stable at all times, the operator must adjust the machine's speed and work operations to suit the actual site conditions. The stability of the dumper is primarily determined by the ground conditions on site. There are special risks associated with tip trucks operated on soft ground and in conjunction with loads that tend to stick to the trough such as wet clay or frozen material. Never exceed the maximum permissible payload of the dumper. Keep a safe distance from ditches, excavation pits and slopes to prevent toppling over. When working near excavated pits, shafts, ditches or trenches, secure the dumper against slipping and rolling off.

5.7. Working near underground pipelines and cables

Before carrying out any excavation work, the contractor must check whether there are any underground cables in the working area, as they can pose a serious risk to persons. If there are underground pipelines or cables in the working area, the contractor must contact the owner or operator of the network in order to determine the actual cable location and to implement the necessary safety measures. If the machine operator suspects that the equipment has come into contact with a cable or its protective tube, he/she must immediately stop all work and notify the supervisor.

5.8. Working near overhead power lines

When working near overhead power lines, always keep a safety distance between the vehicle and the power line to prevent damage to the machine and injury to persons. This distance is determined by the rated voltage of the line. For vehicles with attachments, the safety distance must be kept between the attachment and the overhead power line. Safety distances to overhead power lines:

Rated voltage	Safety distance
Up to 1000 V	1.0 m
From 1 kV to 110 kV	3.0 m
From 110 kV to 220 kV	4.0 m
From 220 kV to 380 kV	5.0 m
If rated voltage is not known	5.0 m

In the event of electrical contact between the overhead power line and the machine, the machine operator must lower or lift the attachment or move away from the power line to remove the machine from the danger area. If this is not possible, the machine operator must follow the instructions below:

1. Do not leave the operator stand
2. Warn all persons in the vicinity of the machine to prevent them from coming closer to it or touching it
3. Arrange to have the power shut down

5.9. Vehicle inspection prior to start-up

Before starting the machine, always check its operating and road safety and continue to monitor during driving.

5.10. Underground operation and operation in enclosed spaces

Dumpers with diesel engines may only be operated in enclosed spaces, tunnels, etc., if the area is adequately ventilated and no additional precautions need to be taken. Never let the engine run idle when working in enclosed spaces! **DANGER OF POISONING!**

5.11. Use of lifting gear

The machine is designed as a transport vehicle. Any other use, including the use of the machine to lift goods, is prohibited!

5.12. Vibration

It is the responsibility of the machine operator to determine the occupational vibration exposure of the driver during a working day on site according to European Directive 2002/44/EC. With this method, all other factors such as travelled distance, duration of actual exposure, etc. are taken into account.

5.13. Before starting work with the dumper

At the beginning of a shift, the operator must familiarise himself/herself with all installed devices and control elements and their function. The dumper must only be operated by persons who have been authorised to do so by the machine owner. Before starting work with the dumper, perform a function test of the safety devices.

5.14. In the event of defects or damage

Immediately report defects to the head of operations. The machine must only be put back into operation when these defects have been eliminated.

5.15. Driving on public roads

When travelling on public roads, adhere to the applicable national motor vehicle traffic regulations. Driving on public roads is only permitted with the respective approval!

5.16. Starting engine

Always start the engine from the driver stand. Do not short-circuit the machine as it may start moving immediately.

5.17. Handling of fuel and other chemicals

Take care when handling fuel. Before refuelling, switch off the engine and remove the ignition key. Never refuel near open fires or ignitable sparks. When handling brake fluid, battery acid and hydraulic fluids, take all necessary safety precautions.

5.18. Travel speed / brake power

The maximum brake power / braking distance is greatly influenced by the ground on which the vehicle is driving! When driving down a slope or if the ground is icy or slippery, the braking distance is much longer than on dry, level ground! Therefore always adjust the travel speed to the ground conditions!

5.19. Exiting the dumper

Before exiting the machine, lower the trough. Set all control devices to zero and secure them to prevent unintentional operation. Apply the parking brake.

5.20. Loading / unloading

Articulated vehicles MUST be straightened before loading or unloading! For reasons of stability, compact self-loading dumpers must only be loaded when they are standing on firm and level ground. Loading on soft or uneven ground should be avoided.

5.21. Operating personnel

The dumper must only be operated by suitably trained and instructed personnel. The owner of the machine must assign all responsibilities in connection with the operation, retooling and maintenance of the machine to specific staff members. Trainees may only operate the dumper while under the supervision of an experienced machine operator. All operating personnel must have the appropriate skills. Bergmann recommends providing special training for drivers and mechanics. For training options, please contact our sales department (for contact details, see cover page).

5.22. Multi-shift operation / maintenance

With multiple shift operation, appoint a person to be responsible for performing the necessary maintenance procedures.

5.23. Instructions and regulations applicable on site

For all work with the dumper, always comply with all rules and regulations that apply on the construction site. Owners, supervisors, and operators are responsible for compliance with the regulations in order to ensure safe operation.

5.24. Tools and accessories

Keep tools and other objects only at the designated places, as they might otherwise obstruct the operation of the machine.

5.25. Working in contaminated areas

For work in contaminated areas, strictly observe the relevant special instructions.

Example: Technical Rules for Hazardous Materials TRGS 524

5.26. Safety devices / organisational safety measures

Before starting the dumper, ensure that all safety devices and guards are correctly attached and in proper working order. Safety devices and guards may only be removed:

- ⇨ after the machine has been halted;
- ⇨ after it has been secured against inadvertent restarting.

When replacing parts, ensure that the safety devices are reattached properly by the operator. The machine owner must provide the necessary personal protection equipment for workers. Regularly check all installed safety devices and guards.

5.27. Informal safety measures

A copy of the operating manual must be kept in the dumper where it is easily accessible to all persons working on or with the machine. In addition to the operating manual, always comply with the general safety standards and the statutory regulations on occupational safety, accident prevention and environmental protection. All safety and danger signs and symbols attached to the dumper must be legible at all times. Replace illegible signs and symbols.

5.28. Risks from electric power and residual energy

All work on electrical components must be carried out by a qualified electrician. The electrical equipment of the machine must be tested at regular intervals. Tighten loose connections and replace damaged cables immediately. Keep the electrical components properly sealed. Please note that there might be some residual mechanical, hydraulic, pneumatic or electric energy after the dumper has been switched off. Take these energies into account and instruct the personnel in the necessary safety measures. For detailed instructions, see the associated chapters in this manual.

5.29. Maintenance, troubleshooting and repair

Carry out all inspection, setting and maintenance work at the prescribed intervals. Shut off the compressed air and hydraulic lines and protect them against inadvertent opening. Before carrying out any inspection, maintenance or repair work on the dumper, shut down the engine, remove the ignition key and attach a warning sign ("Under repair!"). To replace large assemblies, attach them to suitable lifting gear. Check loosened screws for tight fit.

5.30. Modifications to dumper

Modifications to the dumper are only permitted with the prior written consent of Bergmann. This applies also to welding work carried out at load-bearing parts. Replace defective or damaged machine parts without delay. Use only original spare and wear parts, as other parts might not be designed to the same safety and load specifications.

5.31. Valves and hydraulic hoses

Changing the nominal pressure settings of the safety and control valves is only permitted with the explicit approval of the manufacturer. Replace hydraulic hoses as soon as you detect any visible damage or leakage. Use only hydraulic hoses that meet the requirements laid down by the machine manufacturer.

5.32. Fire

Extinguish fires with the on-board extinguisher.
When transporting hazardous goods, always have the prescribed fire extinguishers on board.
Fire in battery housing:

- ⇨ Extinguish only with the on-board fire extinguisher.
- ⇨ Do not extinguish with water.

5.33. Safety of operating personnel – requirements

The dumper must only be operated by reliable personnel. Observe the minimum statutory age requirements.

Operating personnel must have the technical skills and knowledge necessary for the safe operation of the machine. They must be properly trained and instructed.

Suitably qualified operating personnel must be given proper instructions regarding the work to be carried out.

Machine operators are authorised and obliged to refuse to carry out any orders they consider unsafe.

5.34. Compliance with instructions in this manual, safety signs and symbols

A copy of this operating manual must at all times be available at the site at which the machine is operated. All operating personnel must read and understand this operating manual prior to starting work. The operating manual may be complemented with job-specific instructions.

Ensure that all safety and warning signs on the dumper are legible. Replace illegible or missing signs without delay. For details, see section 5.45.

5.35. Safety precautions when working with Bergmann dumper

Before starting the dumper, check it for road worthiness and operational safety.

The dumper must only be started, if it is in proper working order.

If you detect any visible damage, defects or modifications, notify your supervisor without delay.

Before starting any work with the machine, the operator must familiarise himself/herself with the working environment and the site conditions. Always comply with the rules and regulations applicable at the site of operation.

Owners, supervisors and operators are all equally responsible for compliance with the regulations.

In case of a failure or a change in the machine's operating performance, shut down the dumper and immediately notify your supervisor.

If the warning lamps for engine temperature, engine oil pressure or filter control (with warm hydraulic oil) light up, stop work immediately, lower the trough and shut down the engine. Before resuming the work, eliminate the cause of the problem.

The ground or track under the machine must be able to safely support the maximum wheel load. Keep a safe distance from excavation banks and embankments.

Operate the dumper in such a way that its stability is not compromised. Watch out for sloping roadways and uneven surfaces, observe the maximum working load and operate the dumper carefully.

Tip the trough sideways only when the dumper is not pivoted so that the stability will not be compromised.

When driving with loads, always lower the trough and adjust the travel speed to the ground conditions. Do not drive along slopes.

For steep descents, switch to travel mode 1.

Before putting the machine in motion, ensure that no persons are within the danger area of the dumper. This is especially important when travelling in reverse gear and if the view is obstructed. If necessary, engage a second person as a guide.

The dumper may not be used for the transportation of persons. Never use the dumper to push other vehicles.

When mounting and dismounting the machine, use the steps and handles provided.

Before leaving the driver seat, lower the trough, apply the parking brake and shut down the engine. Before prolonged breaks, remove the ignition key and lock the engine bonnet. In Bergmann dumpers with cabs, close the windows and lock the cab door and other doors.

When working in the vicinity of flammable or explosive substances, comply with the applicable regulations. When working in the vicinity of overhead power lines, always maintain the prescribed safety distance.

Ensure that there are no deposits from inflammable goods close to the exhaust devices of the diesel engine.

Always comply with the statutory regulations for the handling of flammable liquids.

The dumper is designed for operation in temperate climates. For prolonged use in other climate zones, contact the manufacturer for advice.

Indoor operation is only permitted if there is adequate ventilation.

5.36. Safety instructions for driving on public roads

Driving on public roads is permitted only if the dumper is approved for road traffic according to the applicable motor vehicle traffic regulations.

The driver must have a driver's licence of category III / C1.

Before travelling on public roads, check the machine's roadworthiness.

When travelling on public roads, comply with the applicable motor vehicle traffic regulations (in Germany: StVO).

Maintain the working equipment in the prescribed position.

If visibility is poor, switch on the headlights.

The transportation of a passenger is not permitted.

When parking the machine on a slope, secure it with chocks (placed in front of the wheels) and apply the parking brake.

When shutting down the machine, switch off the battery main switch.

5.37. Safety instructions for maintenance and repair

Modifications to the dumper are only permitted with the prior written consent of Bergmann

Changing the nominal pressure setting at the hydraulic system requires the manufacturer’s approval. If the pressure needs to be changed, first contact our customer service department.

Welding load-bearing steel components or changing the safety device settings is not permitted.

Spare parts must meet with the manufacturer's technical requirements.

Observe the intervals for recurring checks, inspections and maintenance work laid down in this operating manual. All such work must be carried out by specialist technical personnel.

Repair work must be carried out by specialist technical personnel. Before carrying out any repair work, appoint a supervisor.

Maintenance and repair work must only be performed when the engine is at a standstill. Remove the ignition key to prevent unauthorised restarting of the dumper, and set the parking brake lever to the parking position (see **fig. 5-2, item 2**).

Before carrying out any maintenance or repair work, park the dumper on level ground with the necessary load capacity. Lower the trough to a suitable position and/or secure it with the support provided. To do this, remove the trough support (see **fig. 5-3 and 5-4**) from its holder below the trough and swivel it onto the auxiliary frame.

Secure the joystick for trough operation against inadvertent operation by engaging it in its bottom position (see **fig. 5-2, item 1**).

For repair work, only use proper lifting gear with an adequate carrying capacity. Do not stand under suspended loads.

Before mounting or dismantling attachments and other component parts, secure them with adequate suspension devices or prop supports in order to prevent unintentional moving, slipping or dropping. This also applies to changes to the installation length of components.
Ensure that all tools, lifting tackle and other auxiliary devices are in proper working order.

To change a wheel, lock the centre pivot, secure the wheels with chocks (**fig. 5-5**) and jack up the vehicle using a suitable jack. To lock the centre pivot, remove the split pin and the bolt from the centre locking device (on front frame). Swivel the centre locking device to the eye welded to the rear frame, insert the bolt and secure it with the split pin (see **fig. 5-6 to 5-8**).

When carrying out repair work or changing oil, collect the escaping liquid (e.g. gear oil, hydraulic fluid) in a suitable container and dispose of it safely.

Before carrying out any work on the hydraulic system, depressurise it.

Leaks in the hydraulic and fuel system must be repaired without delay. Escaping oil or fuel causes a fire hazard and pollutes the environment.

Regularly check the electrical system of the dumper. Defects such as loose connections or scorched cables must be repaired without delay. Only use fuses with the prescribed rating.
Before working on the electrical system, shut down the engine, remove the ignition key and switch the battery main switch off (position 0) **(see fig. 5-1)**. Secure the battery main switch to prevent unintentional restarting.

In the event of a fire in the battery housing, use only the fire extinguishers provided. Do not extinguish the fire with water!

When servicing or changing the battery, wear safety goggles and protective gloves!

After completion of the repair work, check all screwed connections and fittings for tightness.

Only start the drive motor after all work on the machine has been completed. Before starting the dumper, sound the horn.

5.38. Switching off battery main switch

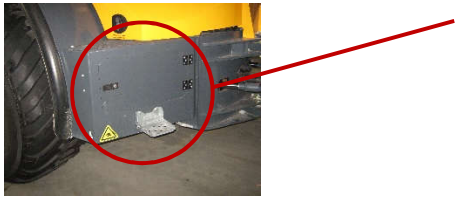


Fig. 5-1

Fig. 5-2

Item 1
The battery main switch (item 1) is located to the left behind the cab, behind the side flap on the front frame.

NOTE

Before carrying out work on the vehicle, always switch off the battery main switch!

5.39. Setting dumper to safe state

Fig. 5-3

Fig. 5-3
Item 1
Push the joystick down and engage it to prevent inadvertent operation of the trough.

Item 2
Actuate the button to set the parking brake to parking position.

5.40. Securing lifted trough

Fig. 5-4

Fig. 5-5

Occupational safety with regard to trough:

For work to be performed under the trough, lift it. Fold up the securing mechanism and engage it behind the securing plate of the trough so that the trough cannot drop if the pressure in the hydraulic system drops.

5.41. Securing dumper against rolling away (wheel chocks)

Fig. 5-6

Chocks (on both sides, under trough):

When transporting the dumper or when carrying out work on the machine, secure it with a chock to prevent inadvertent movement.

5.42. Transport safety device

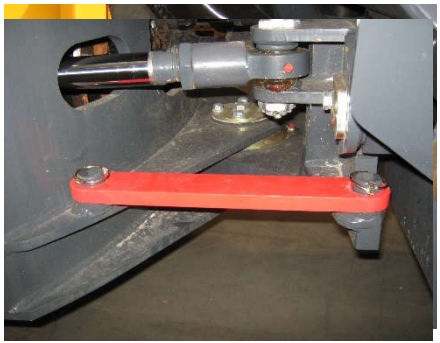


Fig. 5-7

Transport safety device

Remove the split pins and the bolts from the centre locking device (at rear frame). Secure the centre locking device to the welded eyes at the front and rear frame, insert the bolts and secure them with the split pins.

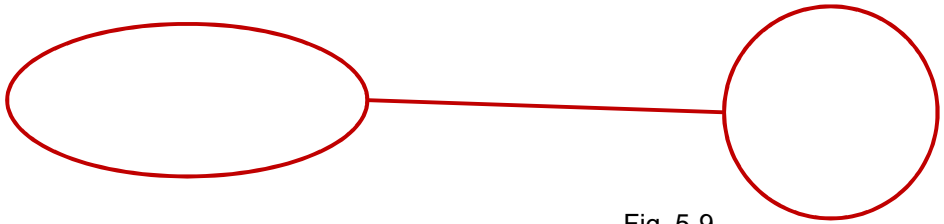


Fig. 5-9

Fig. 5-8

5.43. Transporting and towing dumper

When towing, loading or transporting the dumper, always comply with the instructions in this operating manual!
For towing, comply with the prescribed transport position and the admissible speed and maximum towing distance!
Use proper means of transport and lifting gear with adequate load capacity!
Before towing the vehicle, release the parking brake!

5.44. Pulling of trailer

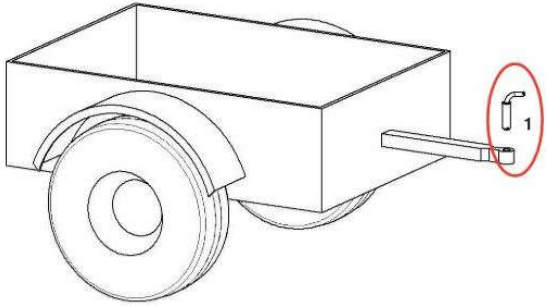


Fig. 5-10

Always attach the trailer to a trailer hook approved by the manufacturer (**1**)!

RISK OF INJURY FROM CRUSHING!

To attach a trailer of any type, always engage a second person to guide you or use a camera system!

The standard trailer coupling at the rear of the dumper must **only** be used for towing. It must only be used for **manoeuvring** trailers on construction sites, and provided that the following instructions are strictly adhered to.

To improve the traction of the dumper, place a load (25% of max. payload) in the trough (**fig 5-10**).

Pulling a trailer is only permissible on level ground and on slopes with an incline of maximum 10%.

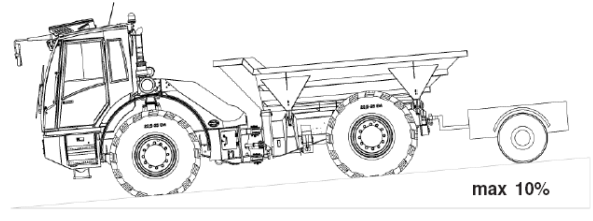


Fig. 5-11

The **maximum permissible trailer load** is **500 kg**.

The **maximum drawbar load** is **100 kg**.

CAUTION

Do not exceed the maximum permissible payload of the dumper, the maximum trailer load for the trailer hook or the maximum permissible drawbar load.

5.45. Safety and warning signs

Fig. 5-13

"Caution! Ventilator blades – Risk of cutting" / 1 label
Item no. 50-005-0003-900

Fig. 5-14

"Caution! Risk of crushing in unsecured pivot area" / 2 labels
Item no. 50-005-0004-900

"Caution! Refer to operating manual" / 2 labels
Item no. 50-005-0002-900

Fig. 5-15

"Caution! Electrical hazard" / 1 label
Item no. 50-005-0005-900

Fig. 5-16

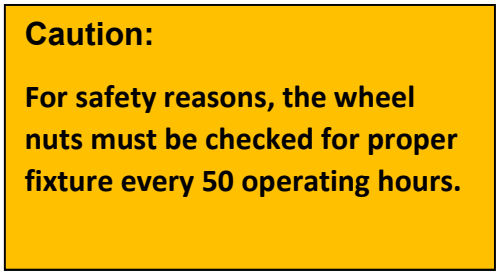
Fig. 5-17

"Caution" / 2 labels
Item no. 50-005-0014-900

Open only when engine is at standstill

Fig. 5-18

Warning sign "Open only when engine is at standstill" / 1 label
Item no. 50-005-0019-900



Instruction sign – wheel nuts / 2 labels
Item no. 50-005-0036-900

Fig. 5-19

5.46. Other signs

Fig. 5-20

CE mark / 1 label
Item no. 50-005-0000-900

Fig. 5-21

Euro Test mark / 1 label
Item no. 50-005-0001-900

Fig. 5-22

Information sign "Tested" / 1 label
Item no. 50-005-0034-900

Fig. 5-23

Information sign "Sound pressure level 100 dB" / 2 labels
Item no. 50-005-0041-900

Fig. 5-24

"Caution! Ventilator blades – Risk of cutting" / 1 label
Item no. 50-005-0003-900

"Caution! Risk of crushing
in unsecured pivot area" / 2 labels
Item no. 50-005-0004-900

Fig. 5-25

"Caution! Refer to operating
manual" / 2 labels
Item no. 50-005-0002-900

Fig. 5-26

Fig. 5-27

Instruction sign – ignition
[Caution: Turn ignition key, wait 3 seconds, start engine] / 1 label
Item no. 50-005-0111-900

Fig. 5-28

Instruction sign – gear shifting / 1 label
Item no. 50-005-0250-900

Fig. 5-29

Adhesive label – diesel fuel / 1 label
Item no. xxx

Fig. 5-30

Information sign – fuel tank / 1 label
Item no. 50-005-0015-900

FUEL TANK

Regular refuelling prevents air bubbles in Fuel lines. Never let tank run dry!

Fig. 5-31

Diesel

Fuel type sign / 1 label
Item no. 50-005-0016-900

Fig. 5-32

Refuelling sign / 1 label
Item no. 50-005-0017-900

Fig. 5-33

Hydraulic oil sign / 1 label
Item no. 50-005-0018-900

Fig. 5-34

Sling points / 4 labels
Item no. 50-005-0006-900

Fig. 5-35

Open only when engine is at standstill!

Warning sign "Open only when engine is at standstill" / 1 label
Item no. 50-005-0019-900

Fig. 5-36

Warning sign "Electrical hazard" / 1 label
Item no. 50-005-0005-900

Fig. 5-37

Warning sign "Caution" / 2 labels
Item no. 50-005-0014-90

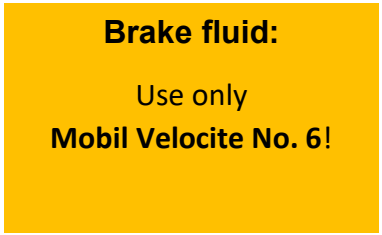


Fig. 5-38

Instruction sign – brake fluid / 1 label
Item no. 50-005-0035-900

Fig. 5-39

Instruction sign – tyre pressure / 2 labels
Item no. xxx

Fig. 5-40

Instruction sign – wheel nuts
[Caution:
For safety reasons, check the wheel nuts must be checked for proper fixture every 50 operating hours.] / 2 labels
Item no. 50-005-0036-900

Fig. 5-41

Fire extinguisher label
Item no. XXXXX

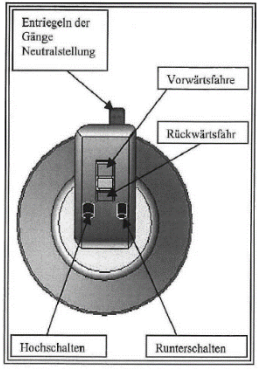


Fig. 5-42

Adhesive label – joystick operation / 1 label
Item no. 50-005-0230-900

5.47. Type plate

Item 1

Type plate

Item 2

Chassis no.

Fig. 5-43

The type plate is located on the right-hand side of the front frame (as seen in the direction of travel) and contains all relevant vehicle data.

Fig. 5-44

6. Technical data

6.1. Power aggregate

6.1.1. Diesel engine

Manufacturer	Cummins Diesel
Type	QSB 3.3
Power rating according to DIN 6271	63 kW at 2600 rpm
Number of cylinders and arrangement	4 cylinders, in-line
Displacement	4500 cm³
Cooling system	Water cooling
Air filter	Dry-air filter

6.1.2. Fuel tank

Capacity	190 litres

6.1.3. Electrical system

Operating voltage	12 V
Battery capacity	110 Ah
Alternator	60 A
Starter	3.0 kW
Vehicle lighting	Standard
Beacon	Optional
Working lights	Standard front + rear

6.1.4. Travel drive

The vehicle is driven by a hydro-mechanical torque converter with downstream multi-speed powershift transmission and integrated transfer box. The converter serves as wear-free starting gearbox, and its speed and torque can be continuously adjusted to the actual requirements. The drive mechanism is connected directly to the engine. The machine comes with manual and automatic gear shifting. The power is transferred to the axles by means of joint shafts. Front axle drive can be switched on when the machine is standing still.

6.1.5. Travel speed

Travel mode I	0 ... 06 km/h / (forward and reverse)
Travel mode II	0 ....09 km/h / (forward and reverse)
Travel mode III	0 ... 14 km/h / (forward and reverse)
Travel mode IV	0 ....22 km/h / (forward)
Travel mode V	0 ... 33 km/h / (forward)
Travel mode VI	0 ....40 km/h / (forward)

6.1.6. Operating pressure of hydrostatic drive

Hydrostatic drive	420 bar

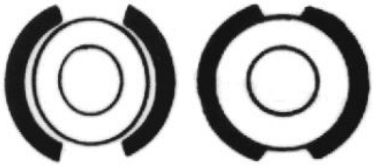
6.2. Axles

Front axle	Rigid axle, self-aligning, flat-spring axle
Rear axle	Rigid axle
Self-aligning angle	± 15° at centre piece
Drive type	optional four-wheel drive

6.2.1. Tyres / tyre pressure

Diagonal tyres	20.5 R 25
Front tyre pressure	2.50 bar
Rear tyre pressure	4.75 bar

6.2.2. Brakes



Service brake: Encapsulated, long-life, maintenance-free multi-disk brake with automatic adjustment. Hydraulically operated with brake pedal, acting on front and rear wheels (two-circuit brake system).

Secondary and parking brake: Hydraulically operated spring-applied brake acting via the cardan shaft on the front and rear axle.

6.3. Steering system

Type of steering:	Centre pivot steering
Drive:	Hydraulic power steering with "Orbitrol" valve, acting on a double-acting working cylinder.
Oil supply	from working hydraulics through valve
Steering lock	33° on either side
Outside turn radius	approx. 5033 mm
Inside turn radius	approx. 2892 mm
Emergency steering	in the event of failure of the diesel engine
Blocking mechanism	Mechanical lock

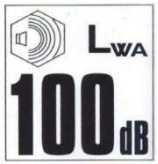
6.4. Working hydraulics

Pump type:	load sensing control
Pump rate for steering hydraulics	45 litres
Operating pressure	230 bar
Working pressure for steering	175 bar
Capacity of hydraulic tank	120 litres

6.5. Weights

Curb weight with cab	11,200 kg
Payload for travel on building sites:	12,000 kg
Payload for travel on public roads:	8,800 kg

6.6. Noise emission



Sound power level:	L_{WA} = 100 dB / 1pW
Sound pressure level: (at operator's workplace)	$L_{pA\ lg}$ = 81 dB / 20 mPa

7. Approvals and certificates

7.1. Occupational health & safety:

CE – tested according to Machinery Directive 2006/42/EC

7.2. Noise:

EC type approval

7.3. Approval for driving on public roads:

Optional approval by TÜV with vehicle certificate

Emission class / engine: EPA interim tier 4, EU stage III (3) B

7.4. Dimensions

Overall length	7390 mm
Overall height with A/C system	3120 mm
Overall width	2450 mm
Overhead load (min.)	2010 mm
Overhead load (max.)	2159 mm
Axle base	3740 mm
Track width	1930 mm

7.4.1. Dumping height

Rear	360 mm
Side	950 mm
Ground clearance	410 mm
Trough height, fully tipped, rear	4710 mm
Trough height, fully tipped, side	3480 mm

See overview drawings chapter 12!

7.5. Admissible slope

WARNING

RISK OF TIPPING OVER!

The dumper must not be driven across inclines of more than 20% in travel direction and 20% in axial direction, as its stability can otherwise not be guaranteed!

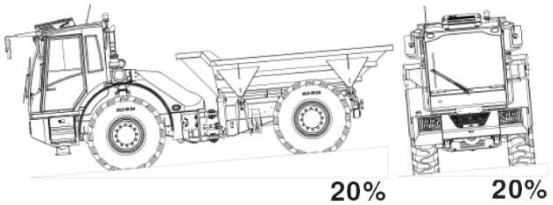


Fig. 7-1

8. Description

8.1. General description

The dumper has been built according to state-of-the-art technology and in compliance with recognised technical safety standards.

8.1.1. Frame

The load-bearing components of the Bergmann dumper consist of a torsion-proof rigid welded construction. The front and rear frames are connected with a centre pivot and steering cylinder. The rear frame carries the trough and the hydraulic cylinders operating it. The diesel fuel tank is located to the right in the front frame. The front frame bears the diesel engine, the hydraulic tank, the oil tank, the cab with operator stand and the engine bonnet.

8.1.1. Axles, wheels and travel drive

The rear axle is rigidly mounted below the rear frame. The front axle is attached to the front frame and is a self-aligning, flat-spring axle. The vehicle is driven by a hydro-mechanical torque converter with downstream multi-speed powershift transmission and integrated transfer box. The converter serves as wear-free starting gearbox, and its speed and torque can be continuously adjusted to the actual requirements. Depending on the operating conditions, the dumper can be equipped with different tyre sets. For further information regarding the selection of tyres, please contact our technical customer service.

8.1.2. Diesel engine and accessories

The diesel engine with the flange-mounted transfer box is arranged longitudinally on elastic bearings in the rear section of the truck. The exhaust pipe is located in the engine compartment and the air filter is attached to the vehicle wing. For detailed information and maintenance instructions for the diesel engine and its accessories, see the enclosed operating manual provided by the engine manufacturer.

8.1.3. Hydrostatic travel drive

The vehicle is driven by a hydro-mechanical torque converter with downstream powershift transmission with integrated transfer box. The converter serves as wear-free starting gearbox, and its speed and torque can be continuously adjusted to the actual requirements. The drive mechanism is connected directly to the engine. The machine comes with manual and automatic gear shifting. The power is transferred to the axles by means of joint shafts. Front axle drive can be switched on when the machine is standing still. Key features are:

At idle rpm of the diesel engine, the flow rate of the pump is zero. The dumper is at a standstill. The flow rate of the pump (and thus the travelling speed) increases as the diesel engine accelerates.
When the travelling resistance increases, the pump automatically reduces the flow rate. The dumper thus travels slower as the slope becomes steeper. This prevents overloading of the diesel engine.
By shifting the hydraulic motor power, the following 6 travel modes can be chosen:

Travel mode I	0... 06 km/h
Travel mode II	0... 09 km/h
Travel mode III	0... 14 km/h
Travel mode IV	0... 22 km/h
Travel mode V	0... 33 km/h
Travel mode VI	0... 40 km/h

Reverse mode (3 speeds) max. 14 km/h

Observe all instructions in section 7.5!

8.2. Brake system

8.2.1. Service brake

When the brake pedal is pushed down, the brake cylinder is actuated, acting on a hydraulic brake valve. The brake acts on both the front and rear axle (two-circuit brake system).

8.2.2. Secondary and parking brake

When the parking brake switch is actuated, the brake caliper in the gearbox is electrically applied. When the brake circuit is depressurised, the brake is applied by spring force. This brake acts on the front axle and is operated mechanically. The parking brake switch is located in the armrest of the joystick holder.

8.2.3. Auxiliary brake

When releasing the accelerator pedal, the hydrostatic travel drive slows down the truck so that, under normal load conditions, the service brake often does not need to be used. It therefore serves as a wear-proof auxiliary brake.

8.3. Working and steering hydraulics

All working cylinders of the working equipment and the steering cylinder are supplied by a gear pump. The hydraulic steering system for the operation of the steering cylinder is supplied through a priority valve. The oil not required for steering is available for the working cylinders of the working equipment. The oil flow rate depends on the engine speed: at low engine speed, the trough movements controlled by the joystick are slower, at high engine speed they are faster. As the control valve is designed as a proportional valve, the trough can be moved quite gently with the joystick (at constant engine speed). The steering valve is located in the right section of the front frame and is operated electrically. It supplies the trough tilt cylinder / scissor-type lifter.

When the joystick is moved, the following cylinder movements are actuated:

Fig. 8-1

Joystick forward:	Trough is lowered
Joystick back:	Trough is lifted
Joystick to the right:	Trough is turned to the right
Joystick to the left:	Trough is turned to the left

8.4. Electrical system

The electrical system is powered by an alternator and the dumper battery. The battery is installed to the left behind the cab behind the flap near the first step (see fig. 8-2).

.

Fig. 8-2

8.4.1. Electrical consumers

Fig. 8-3

- ⇨ Starter
- ⇨ Horn
- ⇨ Dashboard
- ⇨ Windscreen wiper
- ⇨ Beacon (optional)

8.4.2. Only in models equipped for travel on public roads:

Vehicle lighting, consisting of: (see fig. 8-3).

- ⇨ 2 headlights
- ⇨ 2 indicators (front)
- ⇨ 2 combined brake/indicator/tail lamps (rear)

8.4.3. Beacon

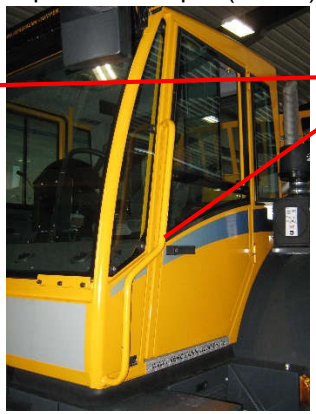
Special authorisation is required for installation of a beacon.

9. Operator stand / cab

9.1. Access to operator stand

The operator stand of the 3012 PLUS dumper is accessed from the left (front). To access the cab, always use the handle (item 1) and the step in the bumper (item 2) (see fig. 9-3)!

Fig. 9-1



Item 1

Handle

Item 2

Step

Fig. 9-2

Fig. 9-3

9.2. Description of operator stand and cab

The operator stand (cab) is mounted on the front frame of the dumper. It is secured to the frame with hydraulic bushings. The operator stand is designed as a separate unit. Its main components are shown below.

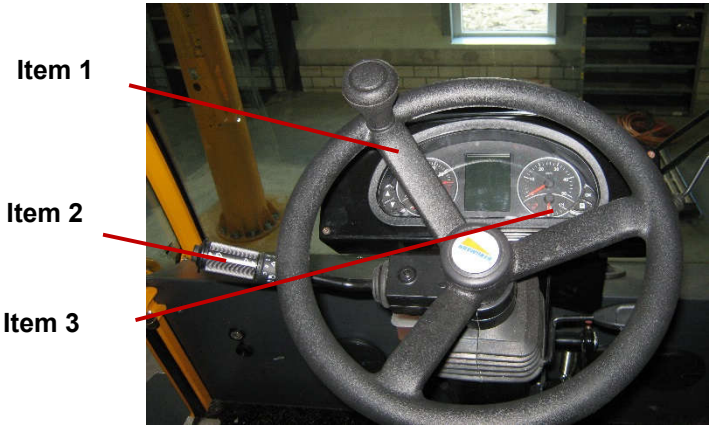


Fig. 9-4

Item 1

Steering wheel with steering knob

Item 2

Steering column switch

Item 3

Dashboard/display *

* definition
For flash codes of control system,
see maintenance instructions

Fig. 12-8

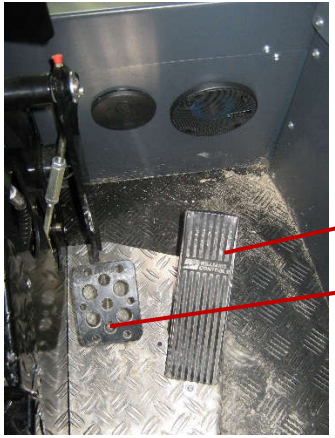


Fig. 9-5

Item 4

Brake pedal

Item 5

Accelerator pedal

Fig. 9-6

Item 6

Steering column

Fig. 9-7

Fig. 9-8

Item 9

Side console

Item 10

Joystick

Item 9

Fig. 9-9

Fig. 9-10

Item 10

Fig. 9-11

Fig. 9-12

Fig. 9-13

Item 11

Seat

Item 12

Headliner

Item 13

Radio

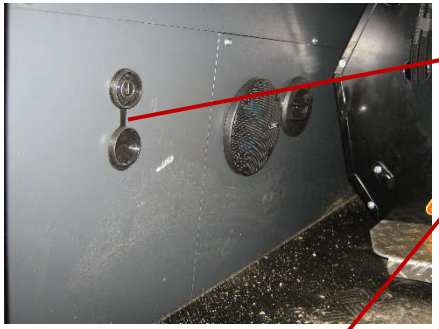


Fig. 9-14

Item 14

Windscreen washer tank

Item 15

Sun protection blind for front windscreen

Item 16

Sun protection blind for rear

Fig. 9-15

Fig. 9-16

9.3. Functions and operation of steering column switch and joystick

Fig. 9-17

Joystick

Press:	Horn
Forward:	Right indicator
Back:	Left indicator
Down:	Full beam lights on
Up:	Flashing light
Centre position	Dipped headlights on

Do NOT adjust the steering wheel while driving!

Fig. 9-18
Steering column switch

Fig. 9-19
Steering wheel adjusting mechanism

Fig. 9-20
Retarder control

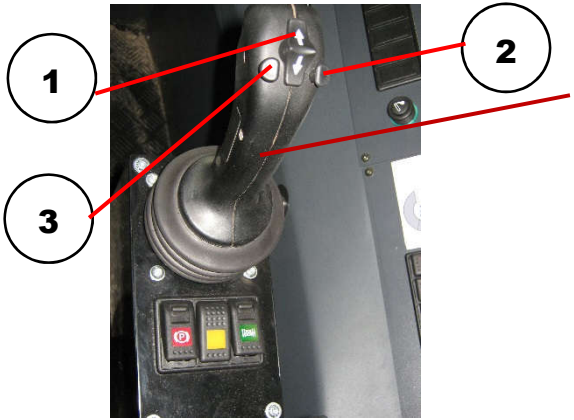


Fig. 9-21

Joystick

- Switch 1 forward: Forward travel
- Switch 1 back: Reverse travel
- Press switch 2: Gear shift down
- Press switch 3: Gear shift up
- Joystick down: Lock
- Joystick up: Release
- Joystick forward: Lower trough
- Joystick back: Lift trough
- Joystick to right: Turn trough to the right
- Joystick to left: Turn trough to the left

9.4. Functions of switches on side console

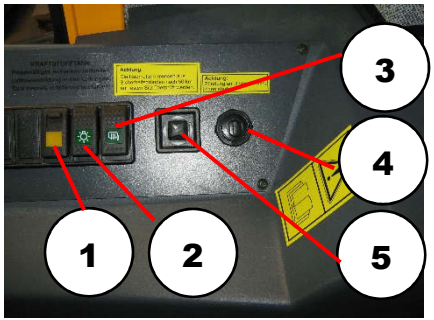


Fig. 9-22

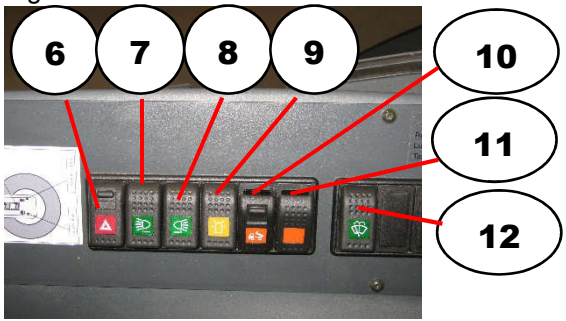


Fig. 9-23

Switches

1 Not assigned
2 Light
3 Outside mirror heating
4 Ignition
5 Mirror adjustment
6 Hazard warning light switch
7 Front working lights
8 Rear working lights
9 Beacon
10 Trough lock
11 Gear shifting automatic/manual
12 Windscreen wiper

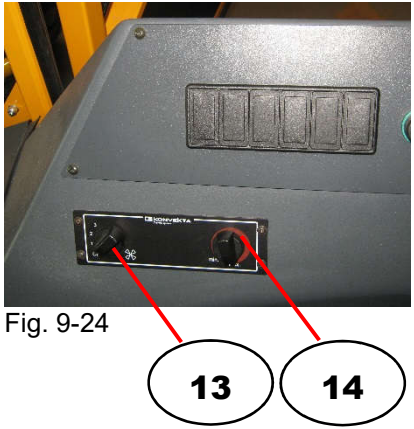


Fig. 9-24

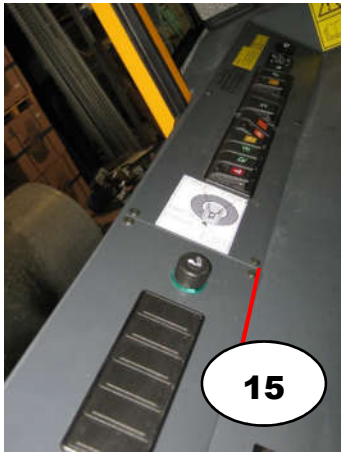


Fig. 9-25

Fig. 9-26

Switches

13 Heating fan speed
14 Heating temperature control
15 Cigarette lighter
16 Parking brake
17 Cruise control
18 Axle activation

9.5. Dashboard

Fig. 9-27

Fig. 9-17

Item 1 Left buttons

Item 2 Left dial indicator

Item 3 Right dial indicator

Item 4 Right buttons

Item 5 Display (centre)

9.5.1. Displays and indicators on dashboard

9.5.1.1. Rev counter

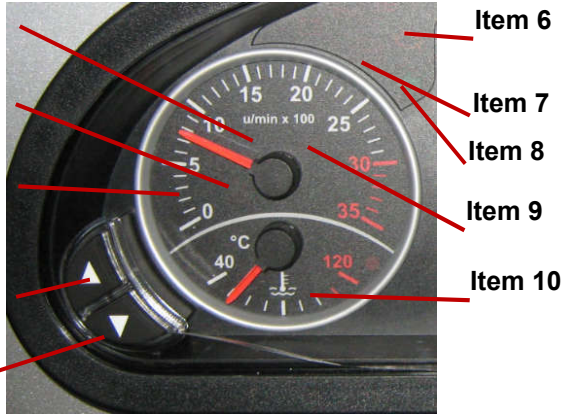


Fig. 9-28

Item 1 Change to previous screen

Item 2 Change to next screen

Item 3 Rev counter

Item 4 Pre-glowing activated

Item 5 Full beam headlights on

Item 6 Engine warning

Item 7 Engine stop

Item 8 Left indicator

Item 9 Parking brake activated

Item 10 Cooling water temperature

9.5.1.2. Speedometer

Item 1 Fuel level indicator

Item 2 Fuel tank at reserve

Item 3 Speedometer

Item 4 Right indicator

Item 5 Working mode

Item 3

Item 6 Transport mode

Item 7 Travel direction forward

Item 8 Travel direction reverse

Item 9 Actuation switch

Fig. 9-29

Item 10 Change to warning screen

9.5.1.3. Display

Screen 1:

Item 4

Item 3

Item 2

Item 1

Item 5

Item 6

Item 7

Item 8

Item 1 Particle filter regeneration off

Item 2 Clean particle filter

Item 3 Machine in neutral gear

Item 4 Clock

Item 5 General warning

Item 6 Exhaust system too hot

Item 7 Operating hours

Item 8 Date

Fig. 9-30

Screen 2:

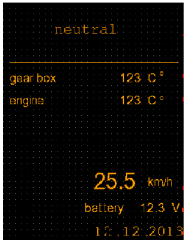


Fig. 9-31

Gearbox temperature
Engine temperature

Travel speed
Battery status

Fig. 9-33

Screen 3:

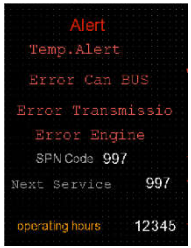


Fig. 9-32

Warning and
error messages

SPN code
Next service
Operating hours

Screen 4:

Selection menu
To adjust
clock

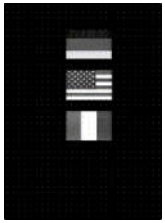
Press "DOWN" and
"OK" buttons
simultaneously.

Screen 5:

Setting time
UP arrow = minutes
DOWN arrow = hours
Confirm with "OK".

Fig. 9-34

Screen 6:



Language
settings

Fig. 9-35

9.6. Adjustment of driver seat

The driver seat of the Bergmann 3012 PLUS dumper can be adjusted vertically and horizontally. It can also be adjusted to the weight of the driver. The seat is equipped with a safety belt (lap belt, see fig. 9-31 to 9-33). The seat settings (weight, etc.) must be adjusted before starting the dumper and each time a new driver takes over the vehicle.
Do not place any objects in the oscillating range of the seat.
If there are any malfunctions or defects (loose screws, etc.) at the seat, have them eliminated by a specialist technician.
To prevent accidents, ensure that all seat controls are fully engaged before the vehicle is started.
Do not make adjustments to the seat while the machine is in operation.
Changes to the series design of the driver seat (e.g. upgrading with third-party parts) might change its functions and voids the test certificate. Certain functions of the driver seat might be impaired so that its safety is no longer guaranteed.
All changes to the design and construction of the driver seat must therefore be approved by the manufacturer.
The driver seat can be retrofitted with safety belts. All safety belts must be put on before starting the vehicle.
When removing the upholstered backrest, only operate the backrest adjusting device, if the hard backrest shell is held in position by hand. Otherwise, there is a risk of injury from impact of the hard shell.

After an accident, replace the safety belts.
In the event of an accident involving a vehicle where the safety belts are attached to the driver seat, the belts and the driver seat, as well as the seat fixture must be inspected by specialist personnel.
Regularly inspect screwed connections and retighten screws, if necessary. If the seat wobbles, check for loose screw connections and other defects.
In the event of malfunction of the seat (e.g. if springs don't work), contact a specialist workshop and have the seat repaired or replaced.
Otherwise, there is an increased risk of accident and/or injury.

9.6.1. Lap belt

NOTE

The lap belt must be put on **before starting** the dumper.

Fig. 9-36

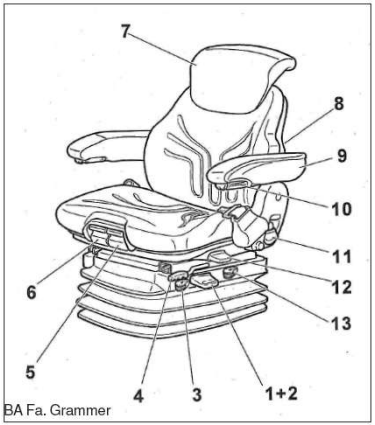


Fig. 9-37

1 – Weight adjustment
2 – Height adjustment
3 – Horizontal spring mechanism
4 – Horizontal adjustment
5 – Seat angle adjustment
6 – Seat depth adjustment
7 – Backrest extension
8 – Lumbar support
9 – Armrest
10 – Armrest angle
11 – Backrest adjustment
12 – Turning mechanism
13 – Cushioning mechanism

Fig. 9-38

Fig. 9-39

Fig. 9-40

10. Start-up

NOTE

Before starting the dumper, the driver must perform all checks and tasks as described in this chapter.

Only start the dumper after you have ensured yourself that it is in proper and safe working order!

NOTE

Electronic and mechanical adjustments must be carried out by authorised technical personnel.

Only start the dumper after you have ensured yourself that it is in proper and safe working order!

NOTE

The tasks and checks to be carried out in order to ensure that the Bergmann 3012 PLUS dumper is safe to operate are included in the **maintenance instructions**.

10.1. Checks to be performed prior to start-up

Before starting the dumper, carry out the safety checks below:
Inspect all components that are accessible to the driver for wear, deformation, corrosion, damage and proper fixture. Inspect hose lines for leakage and damage.

10.1.1. Oil level in engine

Place the dumper on horizontal ground. The oil level must be between the 2 marks on the dipstick. For details, see maintenance instructions, section 9.2.1.2.

10.1.2. Fuel tank

Read the fuel level on the diesel tank level gauge. For details, see maintenance instructions, section 9.4.1.2.

10.1.3. Fluid level in hydraulic fluid tank

Place the dumper on horizontal ground. The hydraulic fluid level must be between the 2 marks of the sight glass. For details, see maintenance instructions, section 8.1.1.2.

10.1.4. Tyre pressure

Check the tyre pressure and adjust it, if necessary. For details, see maintenance instructions, section 7.10.

10.1.5. Electrical system

Check all switching functions. If necessary, check the battery fluid level and add fluid (only for batteries that are not maintenance-free). For details, see maintenance instructions, section 5.5.2.

10.1.6. Brake fluid

Check the brake fluid level in the brake fluid tank. If necessary, add brake fluid. For details, see maintenance instructions, section 7.8.1.

10.1.7. Coolant

Check the coolant level in the radiator and coolant tank. If necessary, add prescribed coolant. For details, see maintenance instructions, section 9.3.1.

10.2. Steps for starting dumper

- ⇨ Switch all operating levers to zero position.
- ⇨ Apply the handbrake by pressing the handbrake button (parking position).
- ⇨ Set the travel direction switch on the joystick to zero position.

RISK OF INJURY!
Before starting the machine, check that there are no people within the dumper's danger area.
Before starting the engine, sound the horn.

Never turn the ignition key when the engine is running!

- ⇨ Start the dumper only if all safety devices and features are in place and working properly.
- ⇨ In the event of a fault or malfunction, immediately shut down the dumper and secure it. Eliminate the cause of the fault or malfunction without delay.

10.3. Starting the diesel engine

- ⇨ Turn the fuel tap at the fuel filter to position ON.
- ⇨ Push the accelerator pedal to its medium speed position.
- ⇨ Turn to ignition key to position "**I**". The electrical system is switched on and the engine is pre-heated (pre-glowing)! If the engine is not running, the indicators for battery charge and engine oil pressure are on to indicate that they are working properly. Wait until the preheat indicator on the display is switched off.
- ⇨ Set the travel direction switch to zero position.
- ⇨ Turn the ignition key to position "**II**" to start the engine.

NOTE

You can only start the engine if the travel direction switch is in zero position.

If the engine does not start after **15 seconds**, turn the ignition key to position "**I**".
Hold it there for **10 seconds** to preheat again. Actuate the starter. If no faults are detected, the indicators are switched off the moment the engine starts running. If an indicator continues to be on, identify the reason for this and eliminate the problem. See operating manual of engine. When the engine starts running, release the ignition key. The key switches back to position "**I**".

10.4. Heating up hydraulic system

At ambient temperatures below **0°C**, let the hydraulic system of the dumper warm up for a few minutes by operating the trough tilt cylinder to the stop.

10.5. Shutting down diesel engine

After heavy-duty work, let the engine run at idle speed for 1 to 2 minutes! Only then shut it down!

- ⇨ Set the travel direction switch to zero position.
- ⇨ Turn the ignition key to position "**0**".
- ⇨ Remove the ignition key.
- ⇨ Apply the parking brake by actuating the switch (button).

10.6. Travel operation

10.6.1. Preparing the dumper for travel operation

Put the trough into transport position (i.e. lower the trough to the stop in centre position). Ensure that the securing bracket (in front frame) preventing the through from swivelling to the side is properly engaged in the grooved plate of the trough (securing bracket at through, fig 10-1).

Fig. 10-1

Hinweis: Fotos vom Rundkipper standen nicht zur Verfügung.

10.6.2. Selecting travel speed/mode

Using the joystick switch, select the travel speed range.

Travel mode I	0... 06 km/h
Travel mode II	0... 09 km/h
Travel mode III	0... 14 km/h
Travel mode IV	0... 22 km/h
Travel mode V	0... 33 km/h
Travel mode VI	0... 40 km/h

Reverse mode (3 speeds) max. 14 km/h

When a higher travel mode is selected, and the truck travels at slow speed (low engine speed), the travel drive automatically switches to the lower travel mode for full engine thrust. If the travelling speed increases, the transmission automatically switches back to the preselected higher travel mode. Thanks to this automatic switchover function, there is no need for manual switching between travel modes.

10.6.3. Travel direction switch

To avoid jerky movements, actuate the travel direction switch only when travelling at low speed.

10.6.4. Brake pedal

When the brake pedal is pushed down, the brake cylinder is actuated, acting on a hydraulic brake valve. The brake acts on both the front and rear axle (two-circuit brake system).

10.6.5. Parking brake

When the parking brake switch is actuated, the brake caliper in the gearbox is electrically applied. When the brake circuit is depressurised, the brake is applied by spring force. This brake acts on the front axle and is operated mechanically. The parking brake switch is located in the armrest of the joystick holder.

10.7. Shutting down dumper

- ⇨ Lower the trough and lock it at its centre position.
- ⇨ Apply the parking brake with the switch.
- ⇨ Shut down the engine.
- ⇨ Remove the ignition key.
- ⇨ Switch the main battery switch off and remove the key.
- ⇨ When parking the dumper on a slope, place chocks in front of the wheels.
- ⇨ Lock the trough operating system (push joystick down).

10.8. Refuelling dumper

- ⇨ Lower the trough.
- ⇨ Apply the parking brake with the switch.
- ⇨ Shut down the engine.
- ⇨ Remove the screw cap from the fuel filler neck and fill the fuel tank with diesel (fig. 10-3).

DANGER

RISK OF EXPLOSION! Avoid exposure to light and naked flames!

CAUTION

Use only clean fuel of the prescribed quality.
For suitable diesel fuel, refer to the operating instructions of the engine!

NOTE

Refill the fuel tank at the end of each working day to prevent condensation in the tank!

The fuel tank is located at the front right below the cab.

Fig. 10-2

Fig. 10-3

10.9. Working with the machine

NOTE

When equipping and using the dumper, ensure that its stability is not in any way compromised.

To ensure that the dumper is always in a safe position avoid sudden movements and take special precautions when working on soft ground or on slopes.

11. Transport

11.1. Driving on public roads

NOTE

If separate approval for travelling on public roads has been obtained, comply with the applicable motor vehicle traffic regulations (in Germany: StVO) as well as the requirements laid down in the special authorisation documents.
Observe the requirements stated in the vehicle's registration book.

For driving on roads outside Germany, observe the applicable national regulations.

11.1.1. Preparing dumper for travelling on public roads

CAUTION

Before driving on public roads, secure the trough with the locking mechanism to prevent inadvertent operation (see section 9.2)!

- ⇨ Lower the trough completely and secure it in its centre position.
- ⇨ Engage the trough lock (press switch, see cab).
- ⇨ If on, switch off the working lights.
- ⇨ Switch on the vehicle lights.

11.1.2. General notes for driving on public roads

The transportation of persons is prohibited.

Using the working lights when driving on public roads is not permitted.
Use the working lights only when working in the dark and if there is no danger of other road users being temporarily blinded.

11.2. Transport by low-loader or rail

⚠ CAUTION

Lock the centre pivot of the dumper during transportation on vehicles (see fig. 5-6 to 5-8)!
Do not use the steering while the centre pivot is blocked! If necessary, apply a warning sign to the steering wheel.

- ⇨ For transport across long distances, place the dumper on a low-loader or railcar. If such transport is necessary, use a company experienced in heavy-goods transport for loading and transport.
- ⇨ In this case, the transport company operator or its representative is responsible for loading and transport.
- ⇨ When loading and transporting the machine, always adhere to all safety regulations.
- ⇨ When choosing the transport vehicle, observe the weight and the loading dimensions of the dumper (see sections 6.5 and 7.4).
- ⇨ Place chock(s) under or in front of the wheels (see fig. 5-5).
- ⇨ Lock the centre piece (fig. 11-6 and 11-7).
- ⇨ Secure the dumper to the transport vehicle, using the sling points at the front and rear (fig. 11-1 to 11-5).
- ⇨ Apply the parking brake.

Fig. 11-1

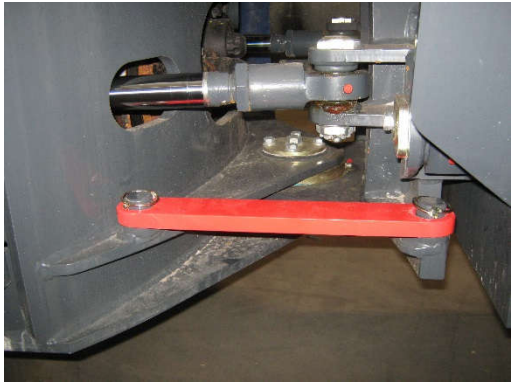


Fig. 11-2

Fig. 11-3

Fig. 11-4

Fig. 11-5

11.2.1. Securing centre pivot

NOTE

Before securing the dumper to the transport vehicle, lock the centre pivot (see section 5.42)!

11.3. Recovering and towing dumper

11.3.1. General information for towing

NOTE

Only tow the dumper if this is absolutely necessary!
Towing is only permitted for short distances, and if the dumper cannot move under its own power.
Towing over long distances is not permitted!

⚠ CAUTION

To tow the dumper, release the parking brake at the gearbox (in the event of a diesel engine failure).

⚠ CAUTION

The dumper must only be towed with a tow rod!
Never tow dumper at a speed greater than **4 km/h** or for more than **3 minutes**! Otherwise, there is a risk of overheating.

Engage the tow rod in the rear towing coupling (fig. 11-16) or the yoke at the front of the vehicle (fig. 11-15).

Fig. 11-15

Fig. 11-16

11.3.2. Towing restrictions

CAUTION

If the dumper breaks down on a public road:
Load the dumper onto a transport vehicle.
Tow the dumper only, if the brake and steering work properly.
Always use a tow rod.
Incorrect towing can lead to serious damage to the dumper and the towing vehicle.

CAUTION

If the brake or steering does not work:
Load the dumper onto a transport vehicle.
Before towing the dumper from a slope, secure its wheels with chocks.

11.3.3. Release the parking brake.

NOTE

Before towing the dumper, release the parking brake at the gearbox (in the event of diesel engine failure).
Before releasing the brake, secure the dumper against rolling away!

The brake is pressurised from the accumulator. As the accumulator is not refilled when the diesel engine is switched off, the service brake fails to work properly after it has been actuated a few times. When the accumulator is no longer pressurised, the brake is permanently applied by the spring mechanism. In this case, the dumper can only be moved after the brake has been released mechanically.

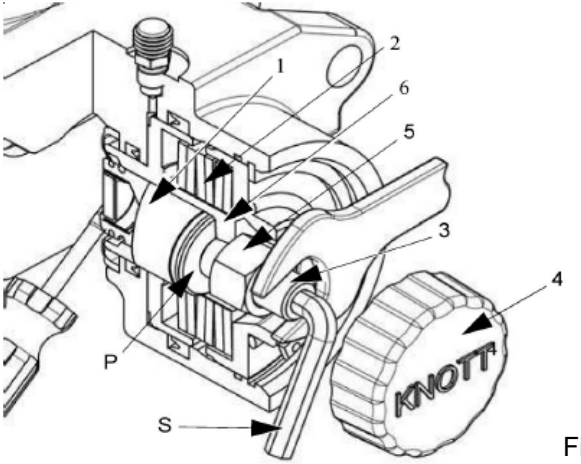


Fig. 11-17

1 – Thrust bolt
2 – Disk spring pack
3 – Adjusting screw
4 – Screw cap
5 – Retaining nut
6 – Piston
P – Plane face
S – Allen key

In the event of a failure in the pressure supply to the parking brake, proceed as follows to release it mechanically:

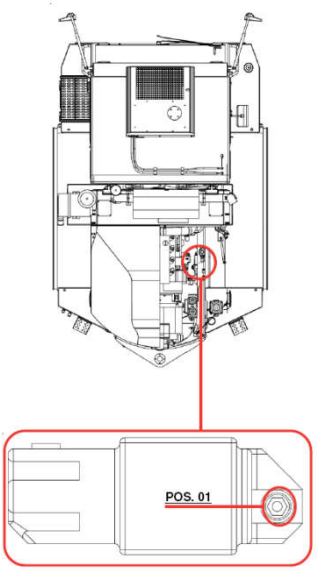
Remove the screw cap.
Loosen the retaining nut (spanner size 24 or 30) and turn the adjusting screw with a size 8 or size 10 Allen key anti clockwise until the brake disk is released.

To mechanically release the parking brake (emergency release) you need to apply a torque of minimum 40 Nm or 70 Nm respectively to the adjusting screw!
Tighten the retaining nut and secure the screw cap by a few revolutions only (to protect the mechanism against dirt).

After the parking brake has been mechanically released, the dumper must be secured against rolling away with chocks. Before restarting the dumper, reset the parking brake mechanism.

11.3.4. Manually lowering trough in the event of a hydraulic failure

If the vehicle needs to be towed and the trough can no longer be lowered hydraulically (e.g. due to a failure of the diesel engine or the electronics), the trough must be lowered manually. To do this, you must operate the respective valve manually.



Top view
Fig. 11-18

The valve is located under the bonnet to the right of the diesel engine (see figure to the left).

WARNING

All electronic and mechanical adjustments must be carried out by authorised technical personnel.

To operate the valve, turn in the screw (item 01) to the stop and hold it in that position. The trough is gradually lowered by its own weight. This process might take several minutes.

11.4. Recovering dumper / transport by crane

The dumper is equipped with marked points for the attachment of lifting tackle. It can thus be lifted by crane, for example to place it on a construction site or to recover the vehicle after an accident.

NOTE

To lift the dumper, attach suitable lifting tackle (cables/chains) to the marked sling points (fig. 11-20).

⚠ CAUTION

To lift the dumper, do not attach lifting tackle to the eyes at the trough. Never lift the dumper by its ROPS structure!

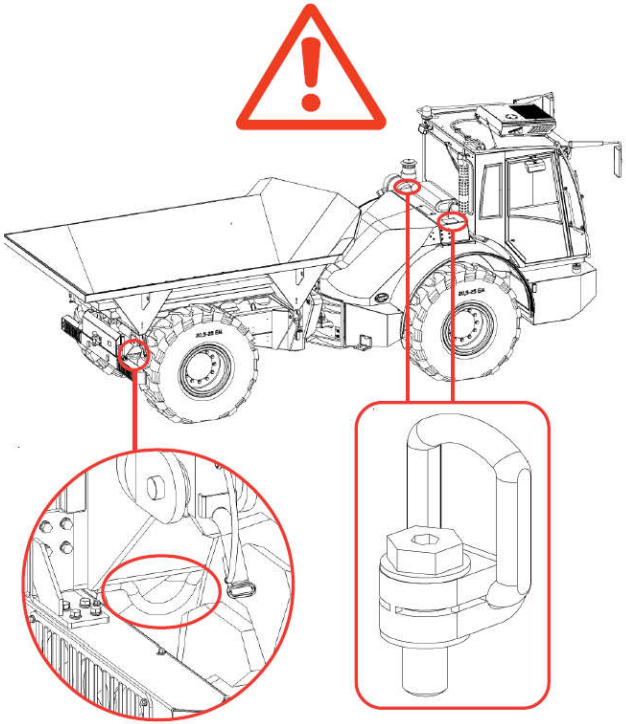


Fig. 11-19

If the vehicle needs to be lifted by crane after an accident, you can attach the lifting tackle to the marked sling points at the front and rear frame.

To lift the dumper, attach the cables to the sling points marked on the front frame (below cover in bonnet frame) and the rear frame (eyes) as shown in the figure to the left.

Always use a 4-leg string chain (cable) with a traverse.

The cables must be arranged in such a way that the vehicle frame and the cabin components cannot become damaged.

Do not recover/lift the dumper when it is loaded.

This is important to prevent the dumper from tipping over when the load slips.

Do not lift the vehicle while it is articulated.

CAUTION

The lifting tackle (cables/chains) must have a minimum load capacity of **20,000 kg**!

NOTE

The dumper must only be lifted when **empty**!
The centre of gravity of the unloaded dumper is located approximately half-way between the axles slightly towards the rear. Its position might vary, depending on the actual equipment of the vehicle. The centre of gravity of the dumper must be taken into account for safe recovery.

12. Dimensions

12.1. Overview drawing(s) of dumper

Hier sollte(n) die Übersichtszeichnung(en) eingefügt werden.

Fig. 12-1

13. Accessories

13.1. Beacon

Fig. 13-1

Fig. 13-2

Fig. 13-3