



Technical Manual

BeNomic EasyTrack



Berg Hortimotive

**Burg. Crezeelaan 42a
2678 KZ De Lier
The Netherlands**

Tel: +31 (0) 174 517 700

**Email: info@berghortimotive.com
Internet: www.berghortimotive.com**

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The machine is manufactured by:



Berg Hortimotive

Burg. Crezeelaan 42a
2678 KZ De Lier
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Tel: +31 (0) 174 517 700

Email: info@berghortimotive.com

Internet: www.berghortimotive.com



1. Declarations

1.1 Copyright

Berg Hortimotive
De Lier, 2020

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Exceptions to this include parts of the documentation which are intended for reproduction, such as abridged instructions and specifications on the machine itself.

1.2 Liability

Berg Hortimotive does not accept liability for dangerous situations, accidents and damage that occur as a result of ignoring warnings or instructions, such as those shown on the *BeNomic EasyTrack*, or contained in this documentation - for example:

- inexperienced or incorrect usage or maintenance
- being used for applications other than those for which it was designed, or in circumstances other than those given in this documentation
- the use of components or spare parts which are not prescribed
- repairs carried without the consent of Berg Hortimotive and/or a certified dealer
- changes to the *BeNomic EasyTrack* include the following:
 - alterations to the controls
 - welding, mechanical works, etc
 - extensions to the *BeNomic EasyTrack* or its controls

Berg Hortimotive does not accept liability when:

- customers do not meet their obligations with respect to Berg Hortimotive (financial or otherwise)
- consequential damage is caused by defects on the *BeNomic EasyTrack* - e.g., interruption of business, delays, etc.

1.3 Warranty

For a period of 6 months after delivery, Berg Hortimotive gives the client a warranty on material and manufacturing defects that occur during normal use. This warranty does not apply if the defects are caused by improper use or causes other than by material and manufacture if Berg Hortimotive - following consultation with the client - delivers used material or used goods or if the cause of the defects cannot be demonstrated clearly. The warranty provisions are set out in the METAALUNIE CONDITIONS as they read according to the most recent relevant text. The terms and conditions of delivery are available on request.

The warranty given by Berg Hortimotive for all goods and materials not manufactured by Berg Hortimotive will never be more than that given by its supplier. The warranty is ex works. Faulty machines and/or parts must be sent postage paid.

When it is not possible to send out machines or systems, any travel and subsistence expenses will be payable by the client.

Sold and delivered goods with manufacturer's, importer's or wholesaler's warranties are subject only to the warranty provisions set by the suppliers.

Hydraulic pumps are subject only to the manufacturer's warranty, provided the pump comes with an undamaged safety seal from the supplier.
Berg Hortimotive accepts responsibility for the availability of replacement parts, provided they are available from its suppliers at reasonable conditions.

2. Foreword

This handbook describes the *BeNomic EasyTrack*.

This handbook provides you with information including the safety aspects, a description of the *BeNomic EasyTrack* together with the working principles, as well as the operating instructions and maintenance of the machine.

Potentially dangerous situations are indicated together with recommendations for avoiding them.

It is important that this handbook is carefully read in order to learn how the *BeNomic EasyTrack* should be operated and maintained. By reading this handbook and then using the *BeNomic EasyTrack*, you, or anyone else, will be assisted in using the *BeNomic EasyTrack* in the correct manner thereby helping to avoid personal injury as well as damage to the machine.

Berg Hortimotive produces safe machines. The machines are designed to meet the latest standards and are manufactured in accordance with the latest CE approval markings. The user remains responsible for the proper operation and for carrying out maintenance on the machine.

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3. Overview of safety measures

3.1 Notifications in the text



IMPORTANT: Indicates that this has a strong effect on the *BeNomic EasyTrack* in terms of its maintenance and operation.



WARNING: Indicates a potentially hazardous situation which can result in serious injury or death, if not prevented.

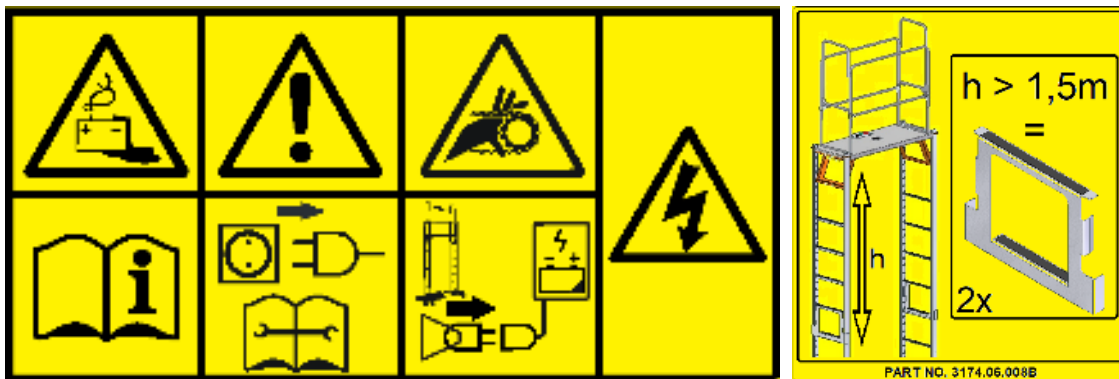


DANGER: Indicates a potentially hazardous situation which will result in serious injury or death, if not prevented.

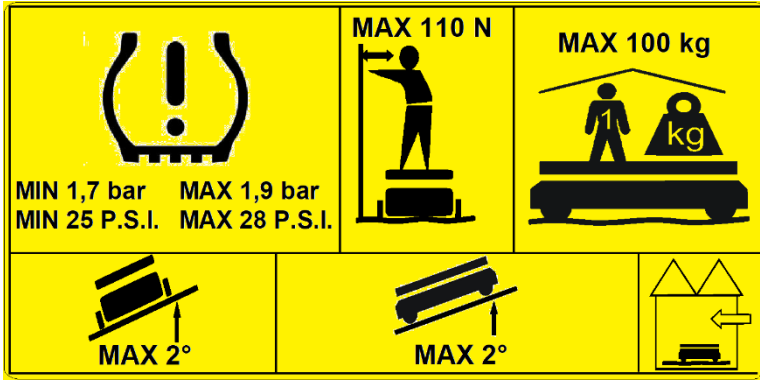
3.2 Repetition of the used safety pictograms

The *BeNomic EasyTrack* has been fitted with safety pictograms to alert the user of potential hazards/dangerous situations. You must act in accordance with these alerts at all times.

The pictograms must be clearly visible and free from damage. Should you have any questions regarding these pictograms, do not hesitate to contact Berg Hortimotive.



- Dangerous chemical battery: explosive gas and corrosive battery acid!
- Attention!
- Danger of becoming trapped, beware of rotating parts
- Danger of electric shock!
- Read the instructions before operation!
- Disconnect power supply before maintenance!
- When leaving unattended, disconnect the power supply from the *BeNomic EasyTrack*
- When operating with the *BeNomic EasyTrack* at height, you must always mount the two double stabilization steps for extra stability



- Suitable for the indicated tyre pressure 1.7 – 1.9 bar
- Maximum lateral manual force in Newtons (kg x 10)
- Maximum total load in kg (maximum one person + loose load)
- Maximum tilt (width) 2°
- Maximum tilt (length) 2°
- Only use indoors (in the greenhouse) on a stable surface

All safety pictograms are on the battery cover shown below.



3.3 Machine type plate

The *BeNomic EasyTrack* is fitted with a machine type plate which contains the following information: address details of Berg Hortimotive, CE mark, serial and type reference, serial number, year of construction.

If you would like to contact the Berg Hortimotive dealer with respect to this *BeNomic EasyTrack*, please ensure that this information is always readily available.



3.4 General safety measures

- Prior to starting the work, always carefully read the manual and strictly follow the directions and instructions stated therein. If in doubt or with ambiguities, you must contact a Berg Hortimotive dealer.
- The *BeNomic EasyTrack* is only suitable for running on levelled ground with proven bearing capacity.
- Only use the *BeNomic EasyTrack* on levelled ground with proven bearing capacity so that the maximum permissible tilt of 2° is never exceeded. See also the safety pictogram on the battery cover.
- Never exceed the maximum carrying capacity of the *BeNomic EasyTrack*, as indicated in the specifications, see chapter 10. You must always stand on the work platform; it is not permitted to "raise" the work platform by placing objects under it.
- *Do not switch on the BeNomic EasyTrack if its protective covers have been taken off or opened up.* Prior to switching on the *BeNomic EasyTrack*, all protective covers must have been replaced.
- Always switch off the *BeNomic EasyTrack* prior to carrying out maintenance or repairs. Always switch off the *BeNomic EasyTrack* by means of the main switch.
- You should always keep the control cable taut by bundling this cable together using the Velcro strip provided. This will prevent the cable from catching behind something.
- The *BeNomic EasyTrack* should always be switched off with the main switch after use, and the driving direction speed potentiometer must be set 'upwards' in the neutral position.
- Never leave the *BeNomic EasyTrack* unattended if the key is still in the *BeNomic EasyTrack*.
- The *BeNomic EasyTrack* must be operated by authorised personnel only, who have received the appropriate training and are at least 18 years of age. Personnel must be familiar with the directions and instructions stated in this manual. Always maintain the appropriate level of concentration when operating the *BeNomic EasyTrack*. Do not operate the *BeNomic EasyTrack* when unable to concentrate properly, when under the influence of alcohol or drugs or when using medication that can impair your reaction times when operating machinery or participating in traffic.
- All personnel working within the active radius of the *BeNomic EasyTrack* must be familiar with the relevant safety rules and precautions that apply to the *BeNomic EasyTrack*. The employer must ensure that all personnel are familiar with these safety precautions.
- Only use this *BeNomic EasyTrack* for the purpose for which it was designed. The *BeNomic EasyTrack* may only be used for maintaining crops in greenhouses. Never use the trolley outside or on the public road.
- Using the *BeNomic EasyTrack* when tilting more than 2 degrees (linearly and/or crosswise) is strictly forbidden.

- The maximum loading may consist of one person plus a secured load which together should not exceed 100 kg in weight.
- Only one person is permitted to stand on the platform at any time (the machine may only be operated by just one person). Persons are also not permitted to ride with/on the chassis.
- Always close the safety railing door when working with the *BeNomic EasyTrack*.
- When operating with the *BeNomic EasyTrack* at height, you must always mount the two double stabilization steps for extra stability.
- Ensure the recommendations are implemented with regard to electric voltage (V) and frequency (Hz). Remove the charging plug before using the *BeNomic EasyTrack*.
- Keep the *BeNomic EasyTrack* in a proper operating condition by carrying out periodic safety inspections as described in this document. Any unsafe situations must be dealt with immediately.
- Assembly, installation, adjustment, maintenance, and repair work must be carried out by professional, qualified personnel only.
- In order to operate the *BeNomic EasyTrack* correctly, it must be free of any obstacles. The *BeNomic EasyTrack* may only be operated when there are no other persons in the vicinity (apart from the operator) of the machine.
- In order to prevent the risk of becoming trapped or stuck, you must apply due care and attention to the moving parts of the *BeNomic EasyTrack*.
- Before taking into service and after maintenance and repair, check that no tools or separate parts have been left behind in or on the *BeNomic EasyTrack*.
- Keep a safe distance from fixed and/or moving parts within the greenhouse as well as cables and ropes.
- Pulling items (steel wire, protective canvas, etc.) using the *BeNomic EasyTrack* is forbidden.
- Using the *BeNomic EasyTrack* to pull or push other means of transport is forbidden.
- It is forbidden for either people or animals to enter the path on which the *BeNomic EasyTrack* is being operated. Never operate more than one *BeNomic EasyTrack* on the same path.
- Additional options, accessories and spares must be ordered and supplied exclusively by the manufacturer, Berg Hortimotive.
- The safety pictograms which have been fitted on the *BeNomic EasyTrack* (see chapter 3.2: Repetition of the safety pictograms used) must be visible at all times.
- You should stop before leaving a harvesting path. Check that no-one is in the immediate vicinity of the main aisle before driving the *BeNomic EasyTrack* slowly onto the main aisle.
- It is forbidden to transport loose loads with the *BeNomic EasyTrack*.

- Stack loads so that they are no more than 40 cm above the working platform, loads must always be properly secured.
- Before entering a path, ensure that there are no obstacles such as plant remains, etc. lying on the path.
- Keep the *BeNomic EasyTrack* clean. Regularly remove dirt accumulation. Never clean the *BeNomic EasyTrack* with a water hose, high-pressure water gun or steam cleaner.
- In order to prevent potential risks with the batteries, you must adhere to the battery safety instructions, see chapter 8.6: Battery maintenance and Appendix 4.
- When working with the *BeNomic EasyTrack*, wearing shoes with protective toe caps (S1) is mandatory.



Work that has not been detailed in this document must be carried out by trained personnel of your dealer or in consultation with Berg Hortimotive.



This documentation forms an integral part of the *BeNomic EasyTrack*! Therefore, carefully store this documentation for future reference, or in the event of a repair or maintenance. It is recommended you keep one copy with the *BeNomic EasyTrack* and to store another elsewhere (for example in the archive of the technical department). An additional copy is available from Berg Hortimotive on request.

4. General description of the *BeNomic EasyTrack*

The *BeNomic EasyTrack* is intended for professional use in the greenhouse horticulture sector. The controls may only be operated by one person with a minimum age of 18 years who has received thorough instruction in the operation of the *BeNomic EasyTrack* and who is familiar with the safety instructions and this handbook, both of which they have fully understood.

The *BeNomic EasyTrack* is a trolley with four pneumatic tyres with two electrically driven and steered axles and is intended to be used as an aid for harvesting and/or maintaining the plants in a greenhouse. Use of the *BeNomic EasyTrack* for any other purposes is strictly forbidden. The maximum loading may consist of one person plus a secured load which together should not exceed 100 kg in weight.

Only use the *BeNomic EasyTrack* on levelled ground with proven bearing capacity so that the maximum permissible tilt of 2° is never exceeded.

Customised systems can have various dimensions, as a result of which the machine supplied may slightly deviate from the illustrations in this manual. If this is the case, we refer you to the assembly drawing of the machine as delivered (see chapter 12: Technical appendices).

4.1 Intended use

The *BeNomic EasyTrack* is a trolley which is intended to be used as an aid for harvesting and/or maintaining the plants in a greenhouse.



Using the *BeNomic EasyTrack* in a manner other than described in this document is not permitted. Berg Hortimotive does not warrant the correct operation of the *BeNomic EasyTrack* when used improperly.

If the *BeNomic EasyTrack* nonetheless needs to be used for a different application, please contact Berg Hortimotive first. Berg Hortimotive will be able to tell you whether the *BeNomic EasyTrack* needs adjusting in order to guarantee the proper operation of the machine.

4.2 Principal components of the BeNomic EasyTrack

The principal components of the *BeNomic EasyTrack* are illustrated in figure 1.



Figure 1: Principle components of the *BeNomic EasyTrack*

A. Door

B. Fencing/safety railing

C. Control panel

D. Foot pedal

E. Platform

F. Height adjustment / platform strut

G. Stabilization tread

H. Treads

I. Uprights

J. Drive wheels

K. Main switch & Charging plug socket outlet

L. Steering wheels

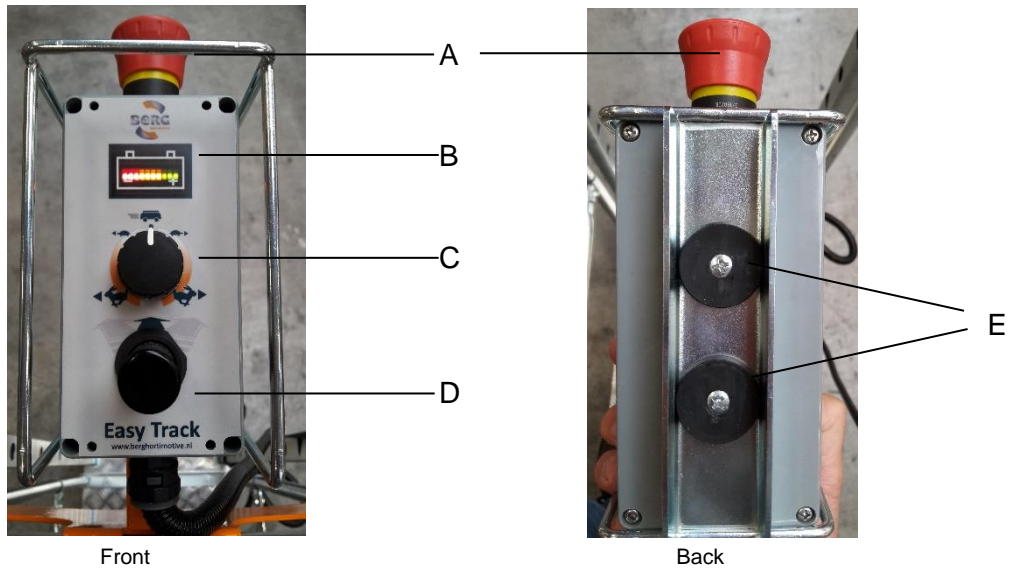


Figure 2: BeNomic EasyTrack controls

- A. Emergency stop
- B. Battery status indicator + fault indication
- C. Travel direction speed potentiometer
- D. Joystick
- E. Magnets

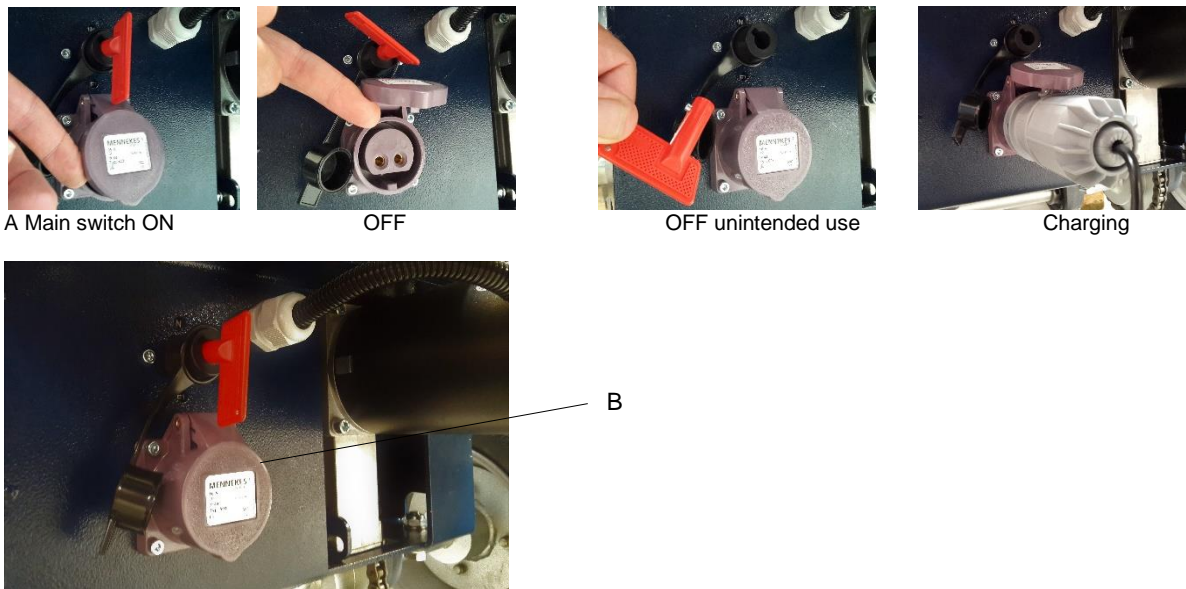


Figure 3: BeNomic EasyTrack undercarriage

- A. Main switch with removable key
- B. Charging plug socket

5. Transport



The *BeNomic EasyTrack* must be transported with the utmost care in order to prevent damage and accidents.

5.1 External transport

If the *BeNomic EasyTrack* needs to be transported, please follow the procedure below:

1. Set the travel direction potentiometer 'upwards' in the neutral position;
2. Switch off the *BeNomic EasyTrack* by means of the main switch;
3. Lower the platform and remove the uprights;
4. Properly secure the *BeNomic EasyTrack* to prevent it from sliding, rolling, or toppling over.
5. Ensure that the *BeNomic EasyTrack* remains dry and frost-free during transportation.
6. After having arrived at its destination, the *BeNomic EasyTrack* must be set up in accordance with the points described at chapter 6 (Putting into operation).

5.2 Internal transport

The *BeNomic EasyTrack* can also be transported indoors (in the greenhouse). The preferred method here is to drive the trolley on its own pneumatic tyre wheels, but it can also be moved using e.g., a forklift truck. To move it with a forklift truck, proceed as follows:

1. Switch off the *BeNomic EasyTrack* by means of the main switch. (see 4.2)
2. Lower the platform.
3. Insert the forks of the forklift truck into the U-profiles under the frame, as far as possible under the trolley.
4. On the other side, check that the forks stick out far enough.
5. Secure the *BeNomic EasyTrack* to the rack of the forklift truck forks, so that the trolley cannot slide or tilt with respect to the forks.
6. Lift the *BeNomic EasyTrack* from the ground carefully, no higher than necessary.
7. Drive slowly and carefully!

Attention!

- **Secure the *BeNomic EasyTrack* to the rack of the forklift truck with tension straps**
- **Never lift higher than necessary!**
- **Make sure that the forklift truck is suitable for lifting at least 500 kg!**
- **Remove loose parts from the platform before lifting!**
- **Drive slowly and carefully!**



6. Commissioning



The *BeNomic EasyTrack* is only suitable for running on levelled ground with proven bearing capacity.



Only use the *BeNomic EasyTrack* on levelled ground with proven bearing capacity so that the maximum permissible tilt of 2° is never exceeded. See also the safety pictogram on the battery cover.



Do not switch on the *BeNomic EasyTrack* if its protective covers have been taken off or opened up. Prior to switching on the *BeNomic EasyTrack*, all protective covers must have been replaced.



Only use this *BeNomic EasyTrack* for the purpose for which it was designed. The *BeNomic EasyTrack* may only be used for maintaining crops in greenhouses. Never use the trolley outside or on the public road.



Using the *BeNomic EasyTrack* when tilting more than 2 degrees (linearly and/or crosswise) is strictly forbidden.



Ensure the recommendations are implemented with regard to electric voltage (V) and frequency (Hz). Remove the charging plug before using the *BeNomic EasyTrack*.



Additional options, accessories and spares must be ordered and supplied exclusively by the manufacturer, Berg Hortimotive.



The safety pictograms which have been fitted on the *BeNomic EasyTrack* (see chapter 3.2: Repetition of the safety pictograms used) must be visible at all times.



Be extra vigilant during the installation!
The risk of incorrect functioning whilst putting into operation is higher than normal. The *BeNomic EasyTrack* may pose a hazard if it has not been set up correctly. Be sure that all securing devices have been applied correctly.

The *BeNomic EasyTrack* is specially designed for running on levelled ground with proven bearing capacity. The *BeNomic EasyTrack* was checked for proper functioning and safety, before leaving the Berg Hortimotive factory. The items described in article 6.1 must be inspected prior to taking the *BeNomic EasyTrack* into service. Moreover, the surface must satisfy the minimum requirements as described in article 6.2.

6.1 Inspection before taking into service



Only use this *BeNomic EasyTrack* for the purpose for which it was designed (see chapter 4.1: Intended use).



Visually check the *BeNomic EasyTrack* for any damage. The *BeNomic EasyTrack* may only be used after having been inspected and found to be in order in terms of damage, functioning and completeness.



You should always keep the control cable taut by bundling this cable together using the Velcro strip provided. This will prevent the cable from catching behind something.

The following points must be checked before taking the *BeNomic EasyTrack* into service:

- Assemble the *BeNomic EasyTrack* as shown in the instructions in chapter 6.4;
- No loose electrical connections (all the functions and buttons work properly);
- No damaged cables;
- The drive wheels and steering wheels must not be damaged and must rotate smoothly;
- Steering runs smoothly in both directions;
- Batteries must be charged (see chapter 7.5);
- No 'general' mechanical damage;
- No damage to and impaired visibility of the control components, pictograms, and symbols;
- All the screens and protective caps and covers are firmly in place and mounted correctly.
- The safety railing is correctly fixed to the platform;
- The door of the safety railing closes automatically;
- Proper working of the 'height adjustment'.

If you are in doubt about the proper functioning of the *BeNomic EasyTrack*, you must contact the technical department of your dealer or the Berg Hortimotive service department, before starting to work with the *BeNomic EasyTrack*.

6.2 Minimum requirements for levelled ground with proven bearing capacity.

The ground on which the *BeNomic EasyTrack* runs should be levelled such that the maximum permissible tilt of 2° is never exceeded.

Soil with proven bearing capacity:

- Ensure that the ground on which the *BeNomic EasyTrack* runs has sufficient bearing capacity. Ensure a cone value on the top layer of more than 0.4 MPa (62 psi). The following conditions are also applicable:
 - The top layer is reasonably homogeneous to a depth of at least 0.5 metres. This is shown by the development of the cone values of the top layer.
 - The load exerted by the *BeNomic EasyTrack* (weight + carrying capacity) does not exceed 350 kg.
- If it is unclear whether the ground has sufficient bearing capacity, have a soil investigation carried out. Make arrangements with the contractor and record the investigation results. The cone values for the ground bearing capacity are defined by

soil investigation using a penetrometer or similar probe. The cone value is the penetration resistance experienced by a cone-shaped body (with specified dimensions) when it is pushed perpendicularly into the soil. The cone value is the measured resistance expressed in MPa (Mega-pascals). This value is sometimes expressed in psi (pounds per square inch; 1 MPa = 145 psi).

- Have measurements taken at several locations in order to determine the bearing capacity of the ground. A measurement to a depth of approx. 60 cm is sufficient for the paths. Per measuring point, calculate the average of the cone values at depths of 10, 20, 30 and 40 cm. The soil for a particular measuring point has sufficient bearing capacity if the average cone value of that measuring point is greater than 0.4 MPa and moreover the cone values of that measuring point do not show a downward trend. As a rule of thumb: the cone value at a depth of 40 cm is greater than or equal to the cone value at a depth of 10 cm.
- If the soil has insufficient bearing capacity: apply soil improvement techniques, such as compacting the top layer.

6.3 Tilt indication (optional)

The *BeNomic EasyTrack* is fitted with a tilt meter with an acoustic warning signal. The tilt meter gives an acoustic signal (a squeak) if the trolley tilts more than 2 degrees. If this is the case, the activities should be stopped immediately and the *BeNomic EasyTrack* should be driven back while walking next to the trolley. The soil should be subsequently made level again before resuming the activities. First test the levelled path by running over it slowly. If this does not pose a problem, test a second time at a minimum speed. If there are still no problems, resume the activities.

Ensure a sound and sustainable solution for resolving the tilt problems!

6.4 Assembly of the *BeNomic EasyTrack*

The *BeNomic EasyTrack* is supplied partly as a construction kit to save transport costs. However, all electrical control components are ready for use and only need to be mounted once the frame has been assembled.



Package A, *BeNomic EasyTrack* undercarriages



Package B, platforms



Package C, safety railings and doors



Package D, holders for the controls

The *BeNomic EasyTrack* must be assembled in a particular sequence. The assembly sequence is shown clearly in the figures below.



Remove the packaging and de-stack the *BeNomic EasyTrack* undercarriages. (Package A)



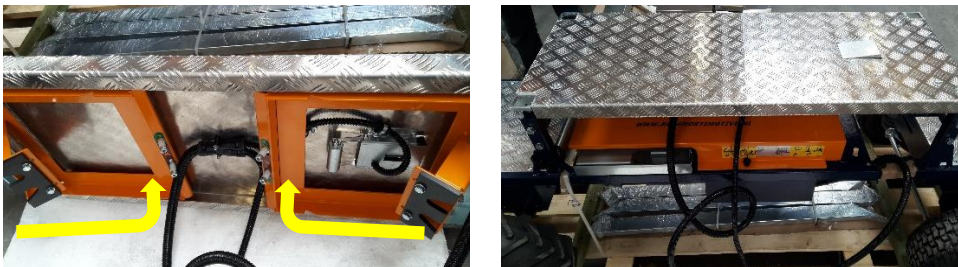
Take a platform (Package B), lay it on a piece of cardboard and unscrew the bolts.



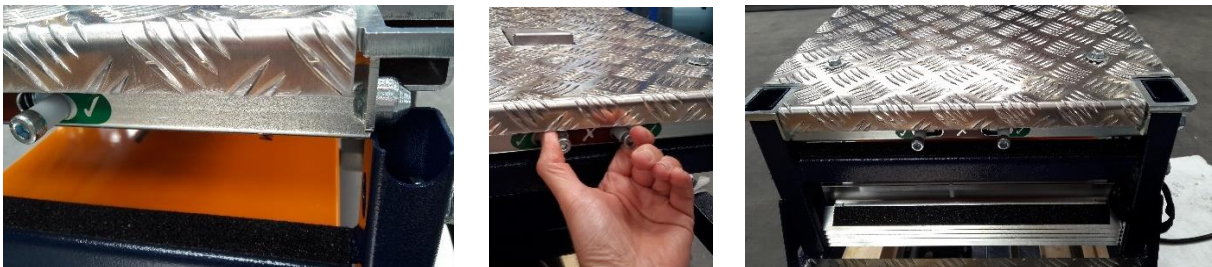
Cut off the cable ties and pull the cabling under the tubular frame.



Mount the foot pedal, cable splitter and brackets as shown in the figures above.



Fold in the platform struts and lock them, then put the platform on the tubular frames.



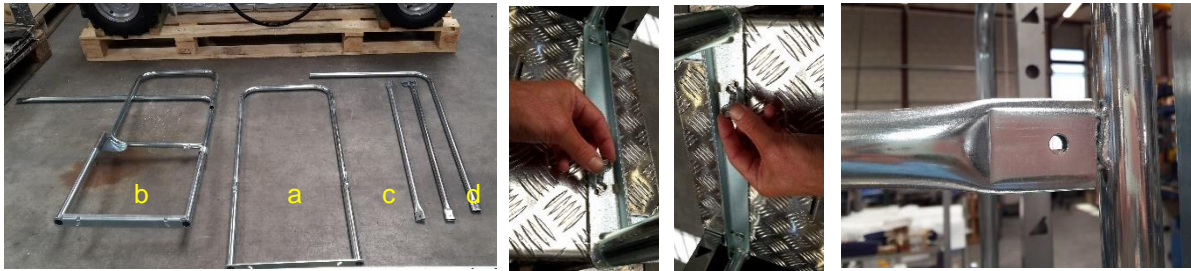
Squeeze the locking catches and lock the platform into the first hole at each end.



Mount the four uprights and tighten the eight bolts using a 17 mm spanner, while noting the notches indicated, there is one upright with a threaded hole, this one should be mounted at the drive wheels.



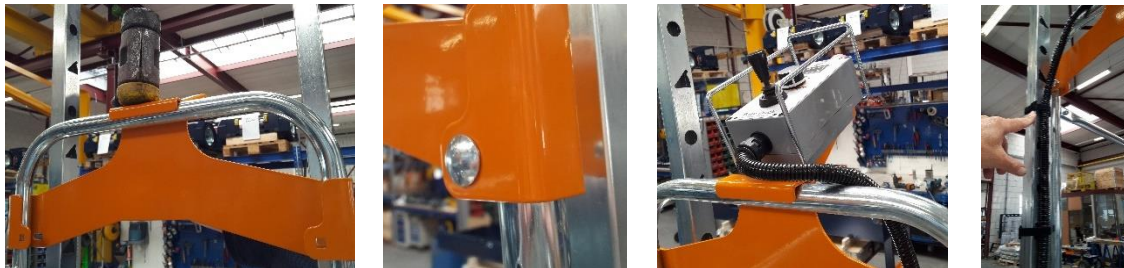
Slide the platform upwards (with two people!) and lock the platform struts as shown above.



Take a safety railing from package C and mount part 'a' to the front and part 'b' to the back. Also mount the railings 'c'. Now fasten all bolts hand tight.



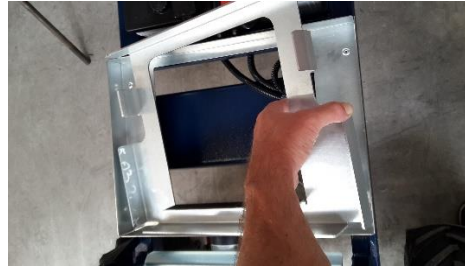
Set the top railing straight and fasten it with the bolt indicated.



Slide the control post holder over the front railing and fasten it with the male screws. Fasten the hose with the Velcro strips.



Set the platform to the required working height (with two people) and after adjustment, check that all eight locking pins have clicked back into the safe 'green' position!



If the platform is set high enough, first mount the two stabilization treads onto the front and back; if the platform is set any higher, the gap can be filled up with separate treads.



Once the platform is high enough, also mount the stabilization strut onto one side of the *BeNomic EasyTrack*. Only for model 5410.00.0001!

After carrying out '6.1 Inspection before taking into service', the *BeNomic EasyTrack* will be ready for use.

6.5 Dismantling the *BeNomic EasyTrack*

The *BeNomic EasyTrack* can be dismantled in the reverse order of the assembly.

7. Operating instructions

This chapter contains instructions for the operation of the *BeNomic EasyTrack*.

The *BeNomic EasyTrack* is designed for operation by one person. This person must be at least 18 years of age and be familiar and comply with the contents of this technical manual. A special training course is not required, although some experience in working with this type of equipment is required.



Only use the *BeNomic EasyTrack* on levelled ground with proven bearing capacity so that the maximum permissible tilt of 2° is never exceeded. See also the safety pictogram on the battery cover.



Never exceed the maximum carrying capacity of the *BeNomic EasyTrack*, as indicated in chapter 10: Specifications. You must always stand on the work platform; it is not permitted to "raise" the work platform by placing objects under it.



Do not switch on the *BeNomic EasyTrack* if its protective covers have been taken off or opened up. Prior to switching on the *BeNomic EasyTrack*, all protective covers must have been replaced.



The *BeNomic EasyTrack* should always be switched off with the main switch after use, and the driving direction speed potentiometer must be set 'upwards' in the neutral position.



The *BeNomic EasyTrack* must be operated by authorised personnel only, who have received the appropriate training and are at least 18 years of age. Personnel must be familiar with the directions and instructions stated in this manual. Always maintain the appropriate level of concentration when operating the *BeNomic EasyTrack*. Do not operate the *BeNomic EasyTrack* when unable to concentrate properly, or when using medication that can impair your reaction times when operating machinery or participating in traffic. In addition, operating this machine whilst under the influence (of alcohol or drugs) is forbidden.

All personnel working within the active radius of the *BeNomic EasyTrack* must be familiar with the relevant safety rules and precautions that apply to the *BeNomic EasyTrack*. The employer must ensure that all personnel are familiar with these safety precautions.



Only use this *BeNomic EasyTrack* for the purpose for which it was designed. The *BeNomic EasyTrack* may only be used for maintaining crops in greenhouses. Never use the trolley outside or on the public road.



Using the *BeNomic EasyTrack* when tilting more than 2 degrees (linearly and/or crosswise) is strictly forbidden.



The maximum loading may consist of one person plus a secured load which together should not exceed 100 kg in weight.



Only one person is permitted to stand on the platform at any time (the machine may only be operated by just one person). Persons are also not permitted to ride with/on the chassis.



Always close the safety railing door when working with the *BeNomic EasyTrack*.



When operating with the *BeNomic EasyTrack* at height, you must always mount the two double stabilization steps for extra stability.



Ensure the recommendations are implemented with regard to electric voltage (V) and frequency (Hz). Remove the charging plug before using the *BeNomic EasyTrack*.



In order to operate the *BeNomic EasyTrack* correctly, it must be free of any obstacles. The *BeNomic EasyTrack* may only be operated when there are no other persons in the vicinity (apart from the operator) of the machine.



In order to prevent the risk of becoming trapped or stuck, you must apply due care and attention to the moving parts of the *BeNomic EasyTrack*.



Keep a safe distance from fixed and/or moving parts within the greenhouse as well as cables and ropes.



Pulling items (steel wire, protective canvas, etc.) using the *BeNomic EasyTrack* is forbidden.



It is forbidden for either people or animals to enter the path on which the *BeNomic EasyTrack* is being operated. Never operate more than one *BeNomic EasyTrack* on the same path.



When leaving a path, you must first stop and check whether anybody is standing in the direct vicinity before continuing on the main aisle.



Stack loads so that they are no more than 40 cm above the working platform, loads must always be properly secured.



Before entering a path, ensure that there are no obstacles such as plant remains, etc. lying on the path.



When working with the *BeNomic EasyTrack*, wearing shoes with protective toe caps (S1) is mandatory.

7.1 Switching on the *BeNomic EasyTrack*



Whilst driving the *BeNomic EasyTrack*, you can stop the machine by operating the emergency stop, if so required. The *BeNomic EasyTrack* will immediately come to a complete standstill.



- A = emergency stop button
- B = Battery status indicator
- C is the direction / speed potentiometer
- D is the joystick for driving / steering
- Direction and speed forwards
- Direction and speed in reverse
- Drive as with the foot pedal
- Steer to the right
- Steer to the right & drive
- Steer to the left
- Steer to the left & drive

1. After having completed chapter 6: Putting into operation, you can switch on the *BeNomic EasyTrack*.
2. Switch on the *BeNomic EasyTrack*, turn the main switch to the vertical position.
3. Turn/pull the emergency stop (A) out if it is activated. The battery status indicator (B) will start to blink and subsequently indicate the current battery status.
4. Close and lock the door after stepping onto the work platform. Then you can freely adjust the desired direction and speed of the *BeNomic EasyTrack* using the travel direction-speed potentiometer (C), turn:
 - up = neutral and speed 0
 - to the right = forwards and variable speed
 - to the left = in reverse and variable speed
5. As soon as the foot pedal is pressed, the *BeNomic EasyTrack* will immediately start moving in the selected direction of travel at the set speed.
6. Use joystick D to set the steering wheels at the desired steering angle, the wheels will remain at the last set steering angle when the joystick is released.
7. If you press the joystick forwards, the *BeNomic EasyTrack* will drive as with the foot pedal.



7.2 Switching off the *BeNomic EasyTrack*

1. Releasing the foot pedal or the joystick (D) will stop the *BeNomic EasyTrack*.

2. The travel direction potentiometer must be set 'upwards' in the neutral position.
3. When leaving the work platform, switch off the main switch of the *BeNomic EasyTrack* by turning it to the horizontal position.
4. Remove the key when leaving the *BeNomic EasyTrack* unattended.

7.3 Use of the emergency stop

The *BeNomic EasyTrack* is fitted with an emergency stop (A). In the event of an emergency, the *BeNomic EasyTrack* can be stopped quickly by pressing the emergency stop. The emergency stop is easy to recognise by its red colour and yellow background. If the emergency stop is pressed, the *BeNomic EasyTrack* will stop immediately.

The emergency stop switch continues to be mechanically blocked and the Leaf picker trolley cannot be restarted. This enables assistance to be provided straight away in the event of a personal accident.

The emergency stop can also be used in the event of sudden and imminent danger, for example a malfunction.

Once the danger has been removed, the emergency stop switch can be released (see chapter 7.7 Starting up after engaging the emergency stop).

7.4 Starting up after using the emergency stop

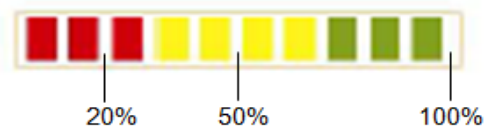


Never release an emergency stop (A) if you do not know who operated the emergency stop and why.

1. Check whether the situation is safe to switch on the *BeNomic EasyTrack*;
2. Turn the travel direction-speed potentiometer (C) upwards to neutral and stationary;
3. Do not operate the foot pedal or joystick (D);
4. Then turn/pull the emergency stop out, the battery status indicator (B) will start to blink and subsequently indicate the current battery status.
5. The *BeNomic EasyTrack* can be operated again, continue at step 4 chapter 7.1.

If the battery status indicator LEDs (B) flash in unison, then the *BeNomic EasyTrack* has been started up incorrectly. Make sure that the emergency stop is pulled out, switch OFF and then ON again with the main switch. Do not operate the foot pedal or joystick (D) when performing the above actions!

7.5 Charging the batteries of the *BeNomic EasyTrack*



You can read off the status of the batteries on the battery status indicator (B). If all LEDs light up, then the battery is fully charged, the battery charge is proportional to the number of LEDs that light up. The LEDs are coloured green, orange, and red. When the red, orange, and green LEDs light up, then the batteries are 80% to 100% charged, if only the red and orange LEDs light up, then they are 40% - 70% charged and if only the red LEDs light up, then the batteries only have 20% - 30% capacity. Charge the batteries if only the red area lights up on the battery status indicator. If this area is reached during work activities, then work can usually continue until the end of the day. If just one red LED flashes, the *BeNomic EasyTrack* must be charged immediately. Switch the *BeNomic EasyTrack* off with the main switch and charge the battery without interruptions for at least 12 hours until the battery charger indicates full. (consult the battery charger's user manual!)

Avoid charging before the battery status indicator indicates 50% discharge. Always try to equal approx. 20% discharge. This has the following advantages:

- Reduced charging cycle, improves the service life
- Less water use
- Less energy use

When the *BeNomic EasyTrack* batteries are nearly empty, you can charge them with the battery charger.

Always charge the batteries at least once every three weeks when **not** using the *BeNomic EasyTrack*. Always remove the power plug with maintenance. Only a suitable charger should be used - see the specifications on the charger.

1. Place the *BeNomic EasyTrack* in the vicinity of a wall socket (for the correct specifications, see chapter 10: Specifications).
2. Switch off the *BeNomic EasyTrack* by interrupting the main switch.
3. Put the charging plug into the charging plug socket outlet. (page 13, Figure 3, B). Make sure that the cable is not damaged.
4. Once the charging plug is connected, insert the battery charger's mains plug in the wall socket. The batteries will now be charged.
5. When the batteries are charged, you should disconnect the mains plug and charging plug from the battery charger. (consult the battery charger manual for the correct charging indication)
6. Switch off the *BeNomic EasyTrack* by means of the main switch.
7. The *BeNomic EasyTrack* is now ready for use.

7.6 Efficient battery use

The following recommendations are aimed at facilitating the efficient use of the *BeNomic EasyTrack* and to improve the life cycle of the batteries.

Basic principles:

- The battery goes flat sooner when running at higher speeds.
- High levels of starting and stopping also increase electrical energy consumption.
- Through using the *BeNomic EasyTrack*, the remaining capacity and battery voltage gradually reduces, while simultaneously the current consumption increases. This results in increasing heat generation from the motor and speed regulator as the batteries gradually lose their charge.
- Too low a tyre pressure and rusty chains (poor maintenance) all result in higher energy consumption. (for maintenance instructions, see website <http://www.berghortimotive.com/service/bsa-film>)
- Allowing batteries to go (completely) flat also reduces the lifespan.
- Charging when required and good maintenance help to increase the life cycle of the batteries.
- Charging when required also lowers the generation of heat in the motor and speed regulator, as well as the battery charger.

Efficient usage:

- Adjust the driving speed as much as possible to the working speed (potentiometer C)
- If the speed is set optimally, fewer stops and starts are required which has a very positive effect on the wear of the *BeNomic EasyTrack*.
- By following the above recommendations, the productivity of the workers will increase too.

Regardless of the level of usage, charge the batteries at least once a week using a suitable charger! Prevent the batteries from being fully depleted before charging!

7.7 Taking the machine out of operation for a prolonged period of time

If the *BeNomic EasyTrack* is taken out of service, switch it off with the main switch and store it in a dry and frost-free area, with fully charged batteries. It is recommended to connect the batteries on the *BeNomic EasyTrack* to a trickle charger. If no trickle charger is available, the batteries must be charged at least once every three weeks (also when the *BeNomic EasyTrack* is stored for longer periods). Ensure that the ground underneath is level. If after a certain length of time (longer than two weeks) the *BeNomic EasyTrack* is put back into operation, it must first be inspected as described in chapter 6.1 (Inspection before taking into service).

7.8 Machine noise

Unfamiliar sounds generated by the *BeNomic EasyTrack* are often an indication of wear, loose or broken parts or a wrong adjustment of the *BeNomic EasyTrack*. These defects must be repaired as soon as possible in order to prevent further wear or damage to the *BeNomic EasyTrack* and/or peripheral equipment.

Provided the *BeNomic EasyTrack* is used in accordance with the instructions, the noise level will remain below 70 dB.

7.9 Scrapping the *BeNomic EasyTrack*

If the *BeNomic EasyTrack* is going to be scrapped, the regulations for waste processing, as applicable at the time and location of scrapping, must be taken into account.

The *BeNomic EasyTrack* has been manufactured using commonly known materials. At the time of manufacturing, waste processing options were available for these types of materials without causing any particular risks to the persons charged with the scrapping.



The *BeNomic EasyTrack* must be dismantled, and any chemical parts removed Batteries must be handed in at the appropriate waste collection point.

8. Maintenance instructions

Whilst working on the *BeNomic EasyTrack*, the power supply must be switched off by means of the main switch.



Do not switch on the *BeNomic EasyTrack* if its protective covers have been taken off or opened up. Prior to switching on the *BeNomic EasyTrack*, all protective covers must have been replaced.



Always switch off the *BeNomic EasyTrack* prior to carrying out maintenance or repairs. Always switch off the *BeNomic EasyTrack* by means of the main switch and remove the key.



Never leave the *BeNomic EasyTrack* unattended if the key is still in it.



Keep the *BeNomic EasyTrack* in a proper operating condition by carrying out periodic safety inspections. Any unsafe situations must be dealt with immediately.



Assembly, installation, adjustment, maintenance, and repair work must be carried out by professional, qualified personnel only.



Before taking into service and after maintenance and repair, check that no tools or separate parts have been left behind in or on the *BeNomic EasyTrack*.



Keep the *BeNomic EasyTrack* clean. Regularly remove dirt accumulation. Never clean the *BeNomic EasyTrack* with a water hose, high-pressure water gun or steam cleaner.



In order to prevent potential risks with the batteries, you must adhere to the battery safety instructions.

8.1 Maintenance schedule

Thanks to its simple but robust design, the *BeNomic EasyTrack* requires little regular maintenance. However, in order to guarantee an efficient operation, it is vital that the maintenance schedule given below is strictly adhered to. Repairs and maintenance work must be noted down in the maintenance logbook (see appendix 1). The employer is also responsible for periodically checking tools and equipment according to the current Working Equipment Guidelines that cover this (or arrange for this to be checked).

Maintenance - Checks	Tools	Daily	Weekly	Monthly	Yearly
Cleaning	Brush	X			
Sufficiently charged battery	Usage schedule	X	X		
Operation of control components & emergency stop	Visually and test	X			
Damage to/visibility of pictograms and stickers	Visually	X			
Foot pedals + cleaning the platform	Brush / Damp cloth	X			
Check the tyre pressures, ingrained dirt or string wrapped around wheels and chain	Visually	X			
Steering and steering controls	Visually	X			
Check height adjustment lock	visually	X			
Test the springs in the lock	Visually and test	X			
Door and safety railing	Visually and test	X			
Cleaning the control panel	Brush / Damp cloth		X		
Check for battery leakage and cable damage	Visually		X		
Charge batteries (at least)	Battery charger		X		
General mechanical damage	Visually		X		
Check battery fluid levels (plates submerged 1 cm below liquid level, see appendix 4)	Distilled water, gloves, screwdriver (+) and glasses			X	
Check operation of tilt signal (Option)	Test > 2 degrees			X	
Grease steering wheels, drive chain and ball bearings	Ball-bearing grease, chain lubricant or other universal lubricant			X	
Check chain tension (see 8.5)	Open-ended spanner			X	
Motor maintenance, replace carbon brushes smaller than 1 cm (see 8.4)	Visually				X

Figure 4: Maintenance schedule

If the above checks indicate that there is a fault with the *BeNomic EasyTrack*, contact your Berg Hortimotive dealer immediately. Continuing to use the Leaf picker trolley after identifying defects could lead to dangerous situations and is therefore forbidden!

8.2 Specialist maintenance

Maintenance and repairs to the items listed below may only be carried out by approved Berg Hortimotive dealers:

- Work concerning the electric components and wiring (excluding exchanging the foot pedal / batteries);
- All work concerning the drive unit (excluding cleaning, readjustment or lubricating the chain and swivelling wheels).
- Consult the website <http://www.berghortimotive.com/service/bsa-film> for BSA videos for activities that you can do yourself.

8.3 Maintenance for levelled ground with proven bearing capacity

The paths on which the *BeNomic EasyTrack* runs should be checked on a regular basis. The ground must always be levelled and of proven bearing capacity (6.2).

The ground under the paths should be dry, flat, and hard. Soft or damp spots should be repaired, and surface indentations permanently solved.

8.4 Carbon brushes maintenance



Switch off the BeNomic EasyTrack before carrying out the maintenance detailed below!

Figure 5a: Switch off



Figures 5b & c: Clean and inspect the carbon brushes

- Slide the plug off the motor connection
- Slide away the carbon brush fixing plate, as shown in the figure above
- Carefully pull the carbon brush out of the motor
- Repeat the above steps for both carbon brushes
- Blow the dust out of the carbon brush holders with dry compressed air.



Figure 5d: Inspecting the carbon brushes

Clean the carbon brushes and replace them if they are shorter than 1 cm, consult your dealer.



Figures 5d & e: Mounting the carbon brushes

Mount the cleaned (or new) carbon brushes, slide the plastic fixing plate back and connect the motor cable.

8.5 Chain maintenance (<http://www.berghortimotive.com/service/bsa-film>)

1. Switch off the main switch and remove the key. (Figure 6)
2. Dismantle the checker plate. (Figure 7)
3. Unscrew the three reduction gearbox nuts one turn. (Figure 8)
4. Unscrew the locking nut. (Figure 9)
5. Tension the chain by tightening the set screw and check the chain tension, it should still have 1 cm play. (Figures 10 & 11)
6. Secure the adjusting bolt by tightening the locking nut properly (Figure 9)
7. Tighten the three reduction gearbox nuts. (Figure 8)
8. Grease the chain.
9. Mount the checker plate. (Figure 7)



Figure 6: Switch off



Figure 7: Dismantle the checker plate

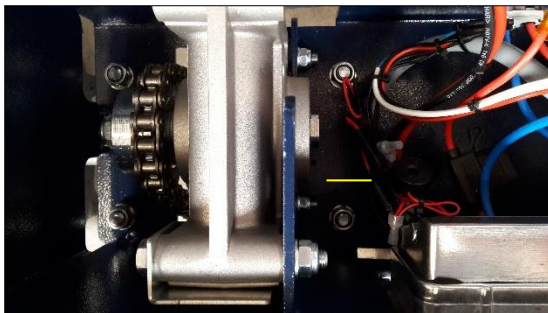


Figure 8: Loosen/tighten the nuts



Figure 9: Loosen/tighten the locking nut



Figure 10: Tension the chain

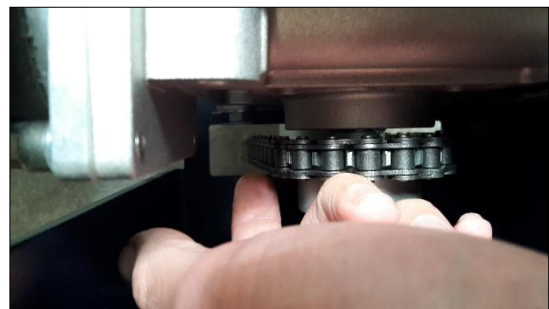


Figure 11: Check the chain tension

8.6 Removing the battery cover

The *BeNomic EasyTrack* is fitted with a battery cover which can be dismantled and mounted by means of two turning knobs to enable cleaning and maintenance of the battery.



8.7 Maintenance of the batteries (<http://www.berghortimotive.com/service/bsa-film>)

Avoid the battery fluid (electrolyte) coming into contact with skin, wear safety goggles and gloves as battery acid is highly corrosive. Wash with soap and water if contact is made. If it comes into contact with the eyes, immediately rinse in running water for a period of at least five minutes and call for medical assistance. Always ensure there is sufficient soap and water in the vicinity and that assistance is within calling distance when people have to work near batteries. Avoid short circuits (sparks) and ensure that there is no electrical connection between the battery poles. The battery cover must be free of damage. Bare patches or dents can cause short circuits!

Explosive gas is released when the batteries are being charged. Keep sparks, naked flames, or cigarettes away from batteries. Ensure that the place where batteries are charged and/or stored is well ventilated. Ensure that no metal objects can fall on top of the batteries as this could cause short circuits or sparks which in their turn could lead to an explosion.

Remove all personal objects including rings, bracelets, neck chains and wrist watches when working in the vicinity of batteries. For example, a short circuit could melt a ring resulting in serious burns.

Follow any further advice as described in the battery safety sheet (see appendix 4).

8.8 Cleaning procedure



Always switch the *BeNomic EasyTrack* off before cleaning. Always switch off the *BeNomic EasyTrack* by means of the main switch and remove the key.



If cleaning work is carried out by persons other than the operating personnel of the machine (e.g., cleaning department or an external cleaning company), these persons must be properly instructed first to ensure they can clean safely.



When cleaning, observe the requirements stated on the battery safety sheet (see appendix 4).

Regularly remove any remains of plants, leaves, etc. and brush off any sand and dust. Clean the *BeNomic EasyTrack* with a dry/damp cloth and soft brush. The *BeNomic EasyTrack* may also be cleaned with dry, compressed air. Never pour water over the *BeNomic EasyTrack* and/or clean it using a steam or high-pressure water cleaner, as this can cause serious damage to the electrical circuit.



Prior to using a cleaning agent, you must check whether it is suitable for use in combination with the materials of the *BeNomic EasyTrack*. If in doubt, contact the Berg Hortimotive dealer.

8.9 Repairs

During the warranty period, repairs may only be carried out under the supervision of Berg Hortimotive.

Repairs and maintenance work must be noted down in the maintenance logbook (see appendix 1).

All parts that need to be replaced must at least meet the specifications of the original parts.



Deviating from the above regulations can compromise the safety of the machine. Berg Hortimotive does not accept responsibility for this.

9. Problems, causes and solutions

no.	problem	cause	solution		
1	The <i>BeNomic EasyTrack</i> does not run	No power	Switch on the main switch		
			Release the emergency stop		
			Operate the potentiometer		
					Replace the fuse
					Cable breakage
			No drive		Broken chain
					Reduction gear defective
					Wheel in pit or against a ramp
				Controls do not react	Joystick defective
					Start-up error
					Faulty foot pedal
					Faulty potentiometer
				Battery indication LEDs light up in unison	Start-up error by controls
		Consult your dealer			
2	The <i>BeNomic EasyTrack</i> does not steer	Glass fuse	Replace the fuse		
				Joystick defective	Consult your dealer
				Motor defective	Consult your dealer
3	Faulty height adjustment	Lock doesn't fit	Damaged shaft		
				Damaged hole in tubing	
			Does not slide in height	Tube clamped in the plate	
					Damaged tubing

10. Specifications

Dimensions [mm]:	Type:	Standard 5410.00.0000	Top 5410.00.0001
Length		1900	1900
Width		750	900
Undercarriage step-up height from concrete path		470	470
Step-up height to platform in lowest position		690	690
Length of work platform		1160	1160
Width of work platform		445	445
Maximum work platform height		2490	2790
Max. Load capacity [kg]		100	100
Maximum lateral pressure [N]		110	110
Weight [kg] (model 900)		250	270
Motor power Moving [kW]		0.33	0.33
Motor power Steering [kW]		0.32	0.32
Max. driving speed (m/min.)		45	45
Voltage [Volt DC]		24	24
Battery capacity [Ah] (5h/20h)		120 / 159	120 / 159
Noise level [dB]		<70	<70
Wheelbase [mm]		1500	1500

Physical operating conditions

Ambient temperature,	
Transport & Storage	: 5 to +40 degrees Celsius
Working	: 5 to +40 degrees Celsius
Rel. Humidity (RH)	: 0% to 90%, <u>not condensing</u>
Lighting	: Normal ambient lighting.

The machine is not designed to be used outdoors.
The machine is not suitable for operating in explosive atmospheres.

11. DECLARATION OF CONFORMITY

Berg Hortimotive, Burg. Crezeelaan 42a, 2678 KZ De Lier, the Netherlands, +31 (0) 174- 517 700

We, Berg Hortimotive,
hereby declare under its own responsibility, that the product:

Part no:

Serial no:

Product description: *BeNomic EasyTrack*

which this declaration relates to, conforms to the standard(s) or to other normative document(s):

EN- ISO 12100 (1,2)

(Machine safety - Basic design definitions - Risk assessment and risk reduction)

EN- ISO 13857

(Safety of machinery -- Safety distances to prevent hazard zones being reached by upper and lower limbs)

EN- ISO 4254-1

(Machine safety - Agricultural machinery -- Safety -- Part 1: General requirements)

in accordance with the provisions of the following Directives:

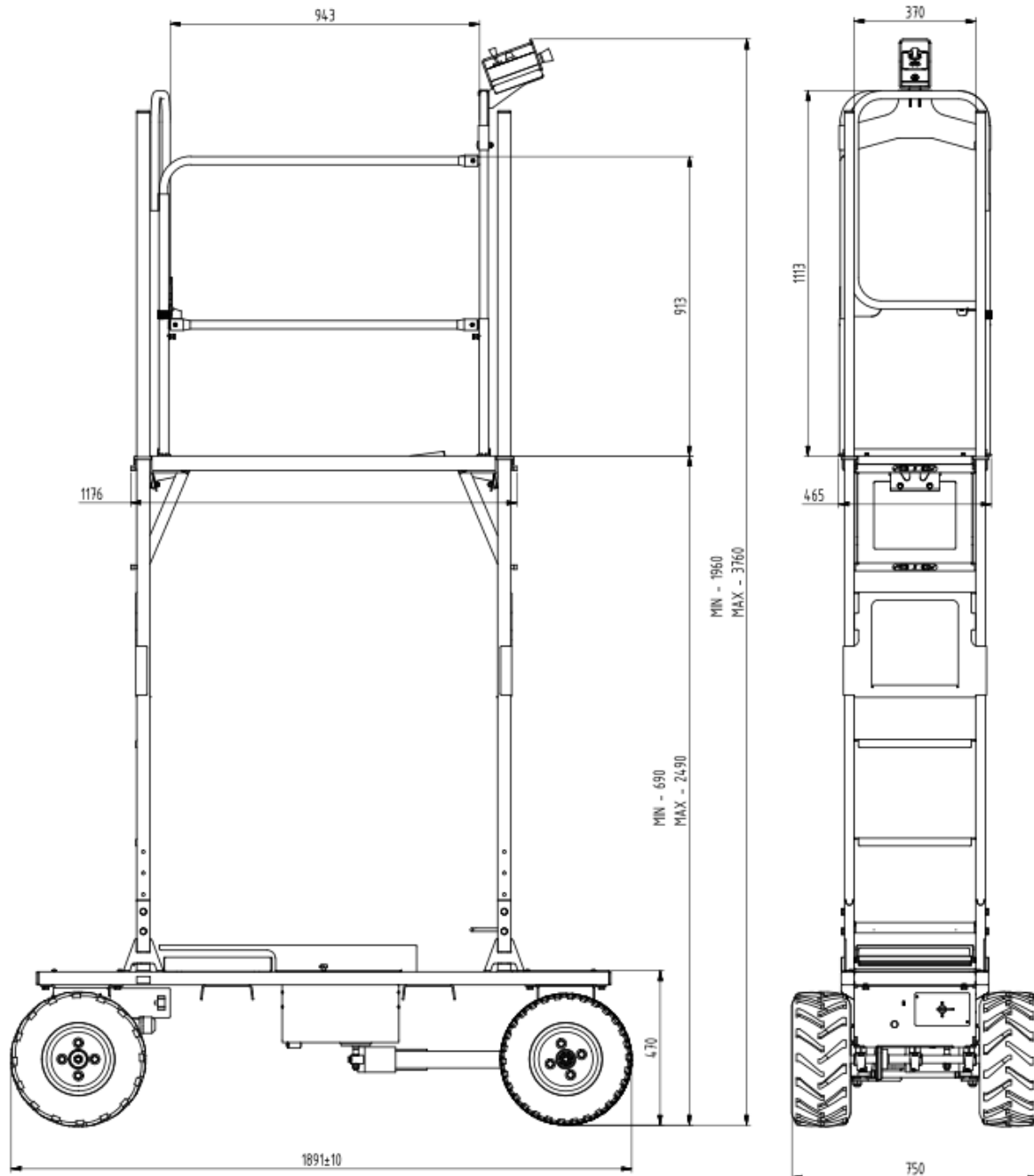
2006/ 42/ EC (Machinery Directive)

The Netherlands, De Lier, date-.....-.....

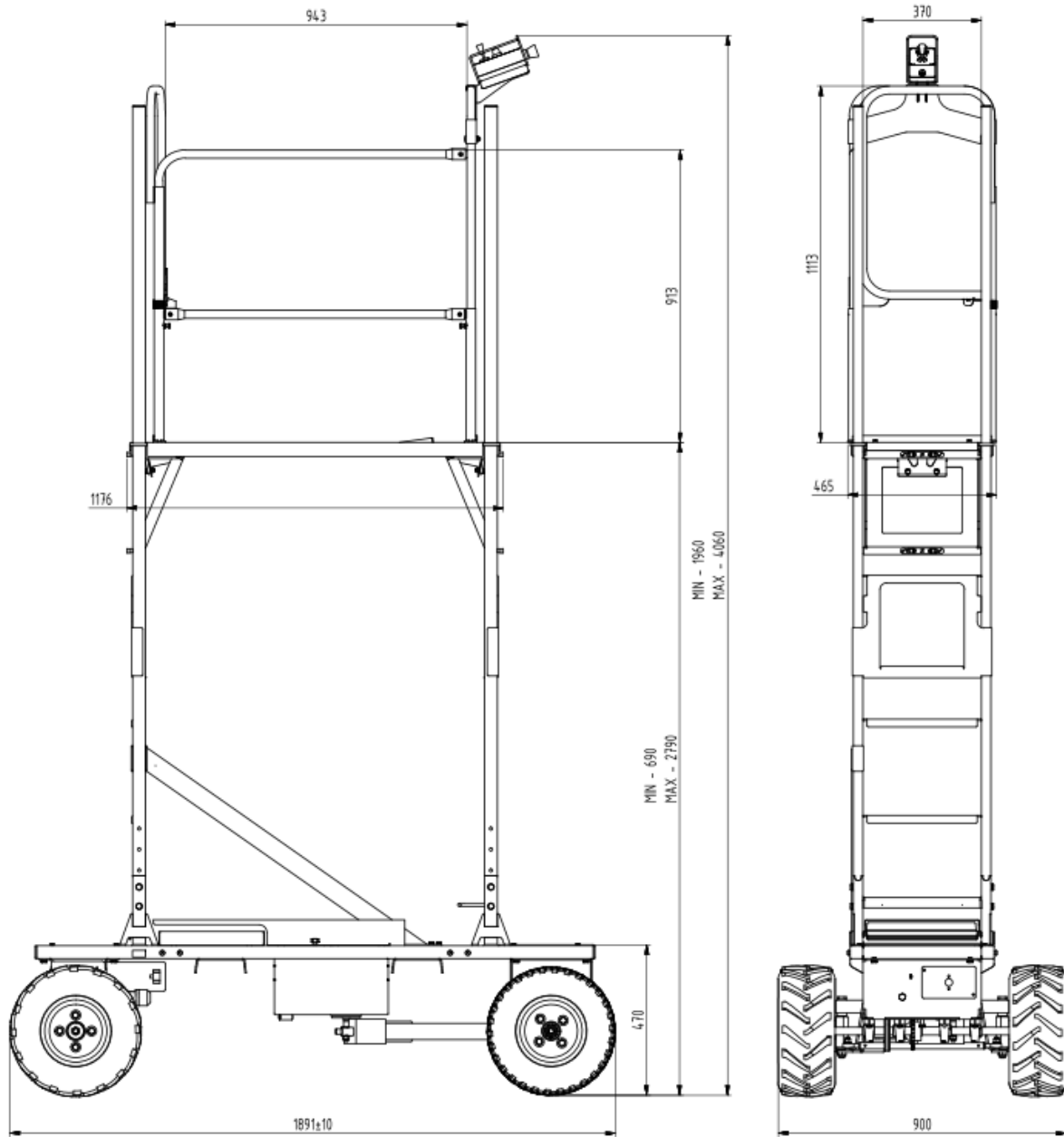
Signature of director or authorised signatory.

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Appendix 2: Technical drawings

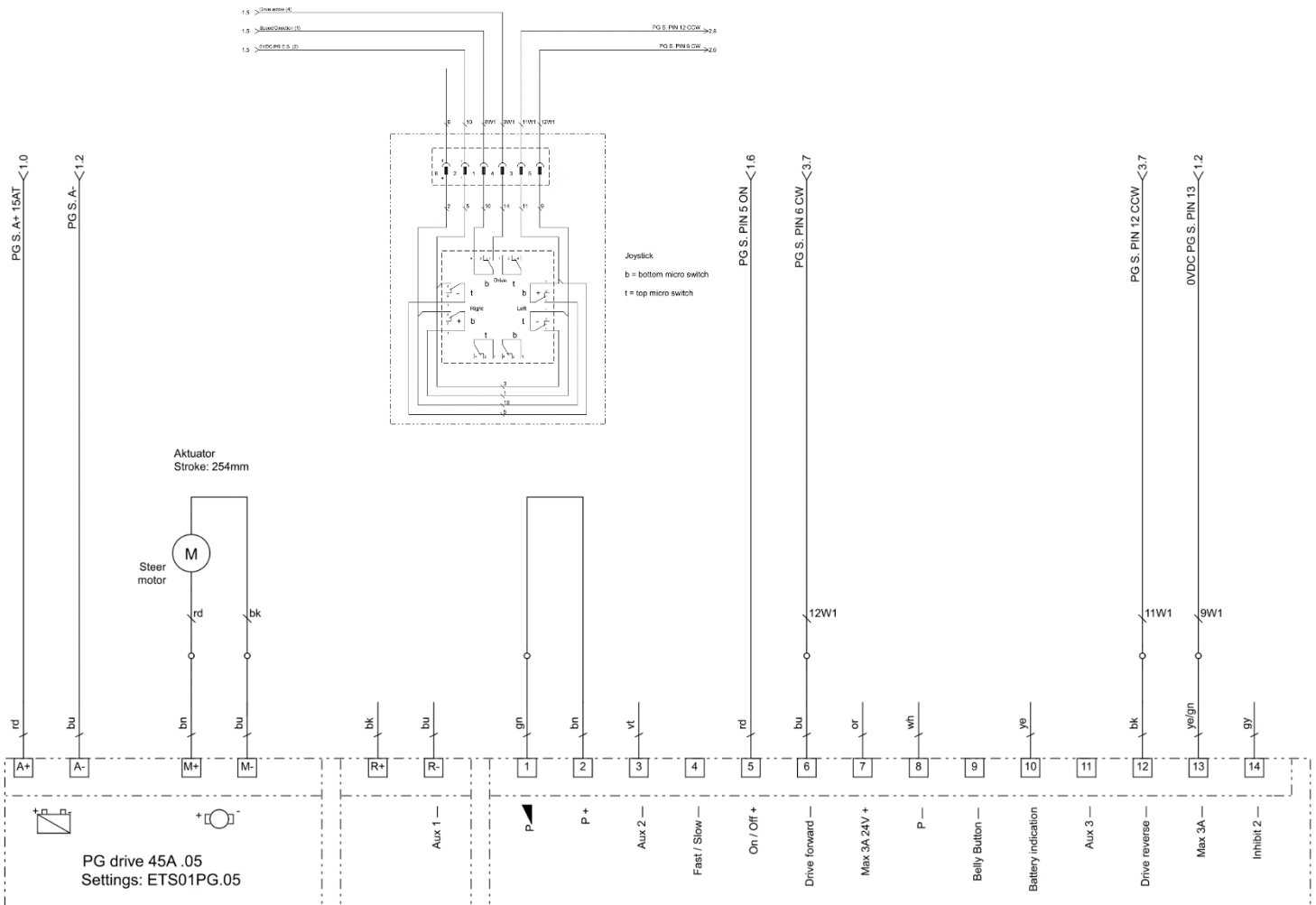
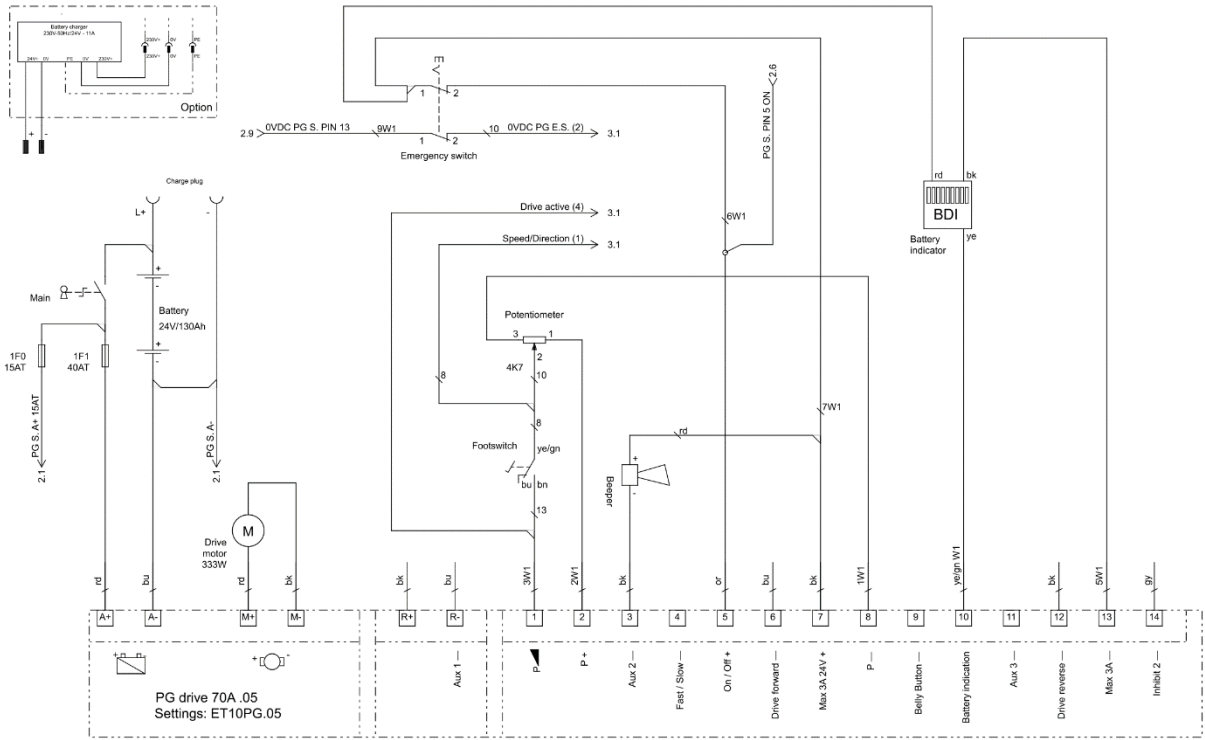


Model 5410.00.0000



Model 5410.00.0001

Appendix 3: Electrical diagram



Appendix 4: Battery safety sheet

Battery advice

The following chapter gives advice on efficient use, safety, and maintenance.

Efficient use of the BeNomic EasyTrack and batteries

The following recommendations are aimed at facilitating the efficient use of the BeNomic EasyTrack and to improve the life cycle of the batteries.

Basic principles:

- The battery goes flat sooner when running at higher speeds.
- High levels of starting and stopping also increase electrical energy consumption.
- Through using the *BeNomic EasyTrack*, the remaining capacity and battery voltage gradually reduces, while simultaneously the current consumption increases. This results in increasing heat generation from the motor and speed regulator as the batteries gradually lose their charge.
- Soft tyres and rusty chains (poor maintenance) all result in higher energy consumption. (for maintenance instructions, see website <http://www.berghortimotive.com/service/bsa-film>)
- Allowing batteries to go (completely) flat also reduces the lifespan.
- Charging when required and good maintenance help to increase the life cycle of the batteries.
- Charging when required also lowers the generation of heat in the motor and speed regulator, as well as the battery charger.

Efficient usage:

- Adjust the driving speed as much as possible to the working speed (potentiometer)
- If the speed is set optimally, fewer stops and starts are required which has a very positive effect on the wear of the *BeNomic EasyTrack*.
- By following the above recommendations, the productivity of the workers will increase too.

Regardless of the level of usage, charge the batteries at least once a week using a suitable charger! Prevent the batteries from being fully depleted before charging!

Safe use of the batteries



WARNING!

- When charging the batteries, an explosive gas is formed: fire, naked flame and smoking is prohibited!
- Only charge in properly ventilated spaces using a suitable charger!
- The fluid level must be checked every month! The battery fluid must be at least 1 cm higher than the plates.
- Only replenish using distilled (demineralised) water (use gloves)!

Discharging for more than 20% adversely affects the lifespan of the batteries and charger. Charge the batteries at least once a week, this will benefit the lifespan of the batteries, the motor, and the drive control! Always immediately charge an empty battery, this will significantly benefit the lifespan. So preferably check the acid concentration every week but check at least every month with a hydrometer (fig. A+B and table below).

With fully charged batteries, the specific mass (SM) should be 1280 g/l:

100%	Density 1280	g/l	=	12.7 volt
80%	1240			12.5
60%	1210			12.3
40%	1170			12.1
20%	1140			11.9

Switch off the *BeNomic EasyTrack* with the main switch before charging. When about to charge, always first connect the batteries to the charger, and afterwards switch on the charger. When charging is complete, first switch off the charger, then disconnect the battery.

Charging the batteries ‘too much’ can cause damage to the batteries because the battery fluid will boil for a longer period of time.

The use of a modern battery charger with automatic cut-off, available from Berg Hortimotive, is recommended. **Only use a charger that is suitable for the batteries used! (see charger instructions)**

Never interrupt charging, completely finish charging, see indication on charger.

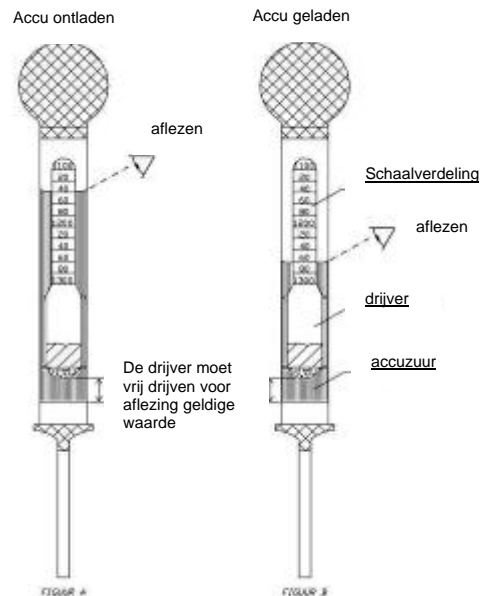
Do not repair, clean, or carry out other activities on the *BeNomic EasyTrack* while charging.

To dismantling the batteries, always switch off all the current consumers, due to sparks. When dismantling the battery, first disconnect the earth cable (-). When mounting, connect the earth cable (black) last of all.

WARNING!

Always connect the plus (+ = red) to the plus terminal and minus (- = black) to the negative terminal.

Battery fluid is a corrosive acid, prevent touching it with clothes, the skin, and eyes. Immediately wash any splashes of battery acid from clothing or the skin using water and soap, afterwards rinse with copious amounts of water. In the event of any splashes in the eyes, rinse for at least 5 minutes with clean water and consult a doctor immediately!



Remark

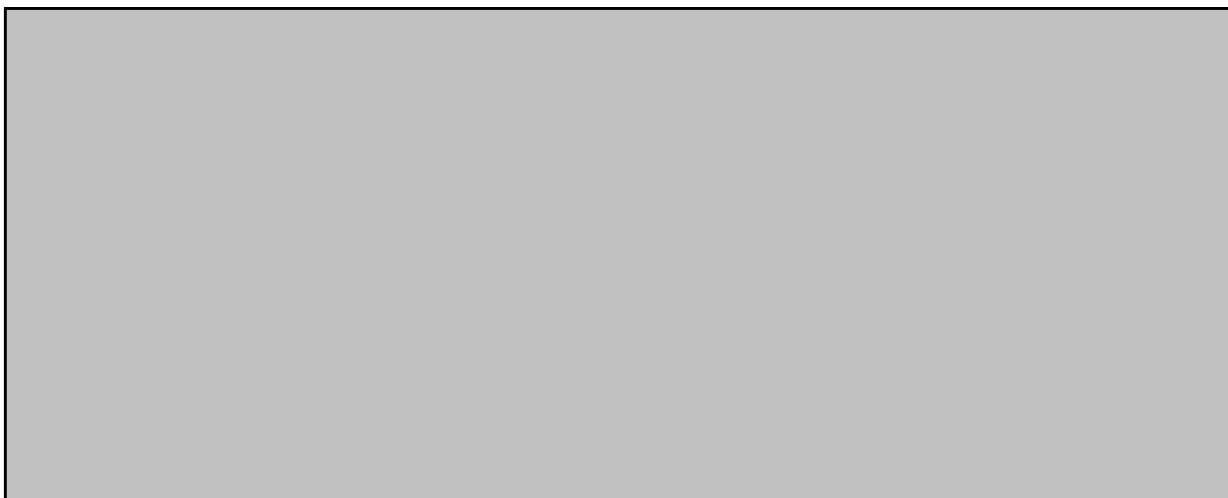
Check how many battery chargers you can connect to one circuit. You can check this by multiplying the number of amperes of the fuse with the voltage. E.g.: $16\text{ A} \cdot 230\text{ V} = 3620\text{ W}$


Subsequently check the battery charger power rating. Divide the total power by the battery charger's power. E.g.: $3620/700 = 5.17$. In this case, five battery chargers can be connected.

Also check that the voltage at the charging location corresponds with the voltage indicated on the battery charger. There may be voltage loss with long cables. If this is the case, you should consult your installer.

Check that it is the correct charger for your machine. The battery specifications that can be used with the charger are indicated on the charger!

Only use a charger that is suitable for 24 V - 110 Ah/5 h Wet batteries! (see charger instructions) for the *BeNomic EasyTrack*.



	TREM-CARD	<div style="border: 2px solid black; padding: 5px; display: inline-block;">UN 2794</div>
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Substance	Batteries wet, filled with acid, electric storage
UN Number	27
HIN	80
ADR Label	8
ADR Class	8
Packing group	-

Emergency Response Information

CORROSIVE SUBSTANCE

1. Characteristics

- Corrosive, causing damage to skin, eyes and air passages
- Not flammable

2. Hazards

- Heating of container(s) will cause pressure rise with risk of bursting and subsequent explosion (BLEVE).
- Gives off corrosive and irritant fumes, also when burning
- May attack metals and produce hydrogen gas which may form explosive mixture with air
- The vapour may be invisible and is heavier than air. It spreads along the ground and may enter sewers and basements

3. Personal protection

- Chemical protection suit.
- Respiratory mask equipped with ABEKP1 filter

4. Intervention actions

4.1 General

- Keep upwind. Put on protective equipment before entering danger area.

4.2 Spillage

- Stop leaks if possible.
- Dilute spillage with water spray as far as necessary to reduce hazard. Contain run off by any means available.
- If substance has entered a water course or sewer, inform the responsible authority.
- Ventilate sewers and basements where there is no risk to personnel or public

4.3 Fire (involving the substance)

- Keep container(s) cool with water
- Extinguish with water fog (spray)
- Do not use water jet to extinguish
- Use water spray to knock down fire fumes if possible
- Avoid unnecessary run-off of extinguishing media which may cause pollution.

5. First aid

- If substance has got into eyes, wash out with water for at least 15 minutes and seek immediate medical attention.
- Remove contaminated clothing immediately and drench affected skin with plenty of water.



- Persons who have been in contact with the substance or have inhaled fumes should get immediate medical attention. Pass on all available product information.
- Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus

6. Essential precautions for product recovery

- Use acid resistant equipment
- Recover spilled product in vented container fitted with absorption filter

7. Precautions after intervention

7.1 Undressing

- Drench contaminated suit and breathing apparatus with water before removing facemask and suit.
- Use chemical protection suit and self contained breathing apparatus while undressing contaminated co- workers or handling contaminated equipment.

7.2 Equipment clean up

- Drench with water before transporting from incident.



INSTRUCTIONS TRACTIONBLOCKS



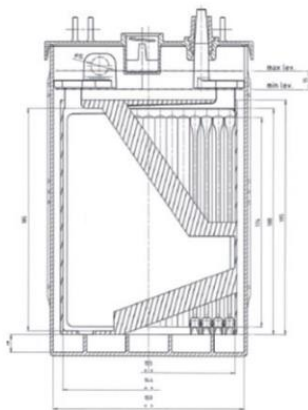
Daily maintenance EW159T:

- Only discharge the battery to 80% maximum (Electrolyte level 1130 SG)
- Connect the battery to the charger, switch on charger and charging should start automatically
- Do not disconnect the battery until charge cycle has finished
- When charge cycle has completed make sure charger is switched off before disconnecting the DC plug

Weekly maintenance EW159T:

- Check the level of the Electrolyte on the battery
Only top up battery with demineralised water
- Only top up after charge cycle has completed
- The battery should only need topping up every 2 weeks
- If required more frequently please contact the manufacturer
- Check for signs of corrosion on cables or bolts clean as required
- The battery tops should be kept clean and dry
No smoking or naked flames to be in the area of charging

Only top up the battery after the charging cycle has been completed to avoid electrolyte spilling from the battery!
No smoking or naked flames to be in the area of charging.



Green is maximum level
Red is minimum level



Always follow the manufactures instructions



No smoking or naked flames



Electrical Hazard



Danger risk of explosion



Always wear the correct PPE



Avoid contact of skin and eyes



Room must be well ventilated



All disused batteries must be recycled

Berg Hortimotive BV
Burg. Crezeelaan 42a 2678 KZ DE LIER

T : 0174- 517700
F : 0174- 516958

E : info@berghortimotive.nl
I : www.berghortimotive.nl

Appendix 5: Cleaning varnish powder coating

The importance of cleaning and maintenance:

- It retains the appearance and image of the product over a longer period.
- It extends the lifespan.
- It prevents corrosion.
- It helps prevent the spread of plant diseases.
- It stimulates employees to operate the machines with care.

Removing contamination periodically prevents any chemical substances that may be present from affecting the powder coating. The protective layers are vulnerable to acids, salts and corrosive substances which cause premature aging. Moreover, thick layers of dirt and contamination absorb more moisture which increases the effects of corrosion on the protective layers.

The cleaning frequency depends on the following factors:

- The level of contamination depends on what is being grown.
- Type of product, or usage between the crops or, e.g., usage only on concrete tracks.
- Exposure to chemical fluids (spraying equipment).
- Exposure to chemical vapours or mists (treating the air space in the greenhouses).
- Exposure to sunlight and UV rays.
- Humidity in the air and condensation.

The above results in a load factor that depends on the type of usage, and where applicable, the following cleaning schedule should be followed.

When to clean:

- | | |
|------------------------------------------------------------|------------------------------|
| • Plant and product residues. | daily |
| • Earth and sand | 2x weekly |
| • Glass, string, plastic, elastic, clips, wire hooks, etc. | 2x weekly |
| • Exposure to chemicals | immediately after use |
| • Dullness or contamination on the top layer | periodically after detection |

How to clean:

- Remove dirt or contamination on the top layer using a soft brush or cloth, or a compressed air line (<6 bar).
- Chemical contamination should be removed using a coarse sponge or soft cloth drenched in tap water.
- Clean a dull or contaminated top layer using a neutral cleaning agent with a pH value between 5 and 8 (check the label on the packaging) and a sponge or soft cloth.
- **Tip**, when a cleaning agent is used for the first time it is recommended to initially test the agent on a small section of the top layer before continuing.

What you must not do:



- Never clean the powder coating using an abrasive or burnishing cleaning agent.
- Never use cleaning equipment with an abrasive surface (steel wool, pot scourer, etc).
- Pressing down, polishing, or scrubbing, etc, is not permitted.
- Never use organic cleaning solutions for cleaning or maintaining the powder coating.
- Pouring over water, using a water hose or high-pressure cleaner can cause damage.

After cleaning:

- Ensure that the cleaned surfaces are properly dry and temporarily remove overlapping protective covers and screens.
- All pivots and hinges, etc, that have been in contact with cleaning agents should be lubricated according to the recommendations given in the maintenance schedule in the user manual.
- Treat any damaged areas on the powder coating layer with lacquer or paint.

Please note:

The above are only **recommendations** and therefore responsibility for the proper cleaning remains with the person carrying it out. Please contact the manufacturer if you have any queries regarding the appropriate cleaning products to be used.