



# BOVI CART

USERS MANUAL, EN – ENGLISH ORIGINAL

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Sejrupvej 27, 7323 Give, Denmark

[www.bovihoofcare.dk](http://www.bovihoofcare.dk) | [info@bovihoofcare.com](mailto:info@bovihoofcare.com)

# THANK YOU FOR PURCHASING THE BOVI CART

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This product is specifically developed and manufactured to prevent skin related hoof diseases, and to clean hooves after hoof trimming.

If you need any assistance in regard to your purchase, please contact the distributor.

## Warranty restriction

Excluded from this warranty are any cost or expenses due to:

- Abnormal use of the equipment that is not in accordance to the specifications stated in the operator manual.
- Incidents such as freezing, ice, fire, flood, inundation or any other form of excessive water or lightning.
- Defect of the electrical system or grounding.
- Damage to the electrical system as a result of vermin, or the like.

Warranty does not apply to consequential damage that does not involve the machine itself.

All systems are tested. However, in the event of malfunction Bovi Hoof Care cannot be held responsible for any consequential damage.

## Trademarks, Copyright and Disclaimer

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Bovi Hoof Care

Sejrupvej 27, 7323 Give, Denmark

Phone: +45 21756735

Website: [www.bovihoofcare.com](http://www.bovihoofcare.com)



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# 1. FOREWORD

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## **This user manual gives information about the Bovi Cart**

The Bovi Cart is a mobile hoof washer that is developed and designed to wash and disinfect bovine hooves. The Bovi Cart can be used to wash the hooves prior to trimming in a hoof care box. For this purpose, a hand spray gun with a short spray lance and water guard is used.

The Bovi Cart can also be used to wash regularly and to disinfect all hooves on a group of cattle that is locked in headlocks of the feeding fence. For this purpose, a spray gun with a long spray lance is used.

The Bovi Cart with type number Bov-2.2001 is developed in accordance with the latest state of the art technology. This ensures that the machine complies with the current European guidelines on safety and health. The Bovi Cart is provided with a CE-mark.

This user manual is either meant for new users or as reference book for experienced users. This manual must be read thoroughly before the unit is taken into operation. Recommendations should be followed.

The recommended user prescription in this user manual are restricted to the most important applications. Some practical experience is needed before the user may develop driving and working techniques and be able to use all the possibilities for the Bovi Cart.

Your safety and the safety of others depend on the service of the machine, your awareness during the work and your knowledge of the machine. Carefulness is the best protection against accidents.

The manufacturer cannot be responsible for unsafe situations, accidents and damages, which are the consequence of:

- Ignoring warnings that are shown in the user manual or on the machine.
- Insufficient service.
- If the machine is used in other applications than those written in the user manual.

Some images in this user manual may show details or components that are different from the details or components on your Bovi Cart, as we keep developing the machine. The Bovi Cart could contain new elements that are not yet included in this user manual. When relevant, changes are highlighted in the new version.

In case of questions about the user manual or the Bovi Cart, please contact the place where you purchased the Bovi Cart.

## 2. SPECIFICATIONS

The Bovi Cart is a trolley based mobile spray unit that can easily be relocated. The fluid is sprayed through a hose and a short or long spraying gun.

### 2.1 TECHNICAL SPECIFICATIONS

Capacity water tank	50 L
Pump pressure	4,5 bars – beginning at 5 bars
Dry weight	35 kg
Max weight	100 kg
Hose length	10 m
Mixing proportion	10-15 %
External dimensions (LxWxH)	55 x 90 x 107 cm
Track width	55 cm

### 2.2 CHEMICAL SPECIFICATION

A disinfection or care product is part of the Bovi Cart concept.

Requirements for products applicable

- Proven disinfection properties on hooves from dairy cattle (biocide registration)
- Fit for purpose and effective as a disinfectant with prolonged activity on hooves in a barn environment
- Have caring properties for skin and hooves
- Support the hardening of hooves.



Bovi Hoof Care recommends Bovi hoof concentrate

Bovi Hoof Care recommends Bovi hoof concentrate that is offered in 24 kg containers. The product must be mixed in the container on the Bovi Cart. The max dilution rate is approx. 14 % (\*) approx. 7 liters of Bovi hoof concentrate.

Application primarily for back hooves (front hooves as needed) of young stock and dry cows.  
Minimum once per week.

(\*) Please consult your local contact person for the correct concentration level.

**For practical/safety reasons: For this treatment cows must be secured to the feeding fence (must not be applied during milking).**



Always wear protective gloves and goggles when handling chemical products.  
Take note on the H (Hazards) and P (Precautions) mentioned in the label and in the Material Safety Data Sheets and follow up to these guidelines.

## 3. SAFETY

### 3.1 INTRODUCTION

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The Bovi Cart is a mobile sprayer that operates with pressurized flows containing hazardous chemicals near animals and humans. Therefore, it is of the utmost importance to obey to all safety instructions when operating the Bovi Cart.

General note: For safe working with the Bovi Cart, besides all safety instructions, it is most important to think clear, be well prepared and be focused on what you are doing.

### 3.2 SAFETY INSTRUCTIONS

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#### 3.2.1 GENERAL SAFETY

The documentation and instructions of this user manual are part of the Bovi Cart. Please read it carefully. The user manual should be understood and studied. It should be available at all times. Pay attention to the warning signs. The Bovi Cart may only be operated by trained personnel or persons that:

- Have read the user manual carefully.
- Are at least 16 years of age.
- Are professionally qualified.
- Are not overstrained, tired or fatigued.
- Are not under the influence of drugs and/or alcohol.
- Have read and understood the user manual.
- Have been trained or instructed to operate the Bovi Cart and know how to execute the assigned tasks properly.

#### 3.2.2 ELECTRICAL SAFETY

The Bovi Cart has a 12V battery mounted under the water tank and a battery charger that is only meant to charge the battery of the Bovi Cart. Assure the mentioned precautions are being followed:

- When charging, make sure the charger stays dry, protected and clean.
- Prevent the charger from being reached by animals or kids when it is charging.
- Store the battery charger in a dry, protected and clean place.

### **3.2.3 OPERATING SAFETY**

For the users' safety, it is only allowed to use the Bovi Cart mobile sprayer as described in the user manual. Using the Bovi Cart differently than described in the user manual may endanger the operator and result in potential injury. Therefore, the operators should follow the mentioned precautions:

- The operator should read and understand the user manual.
- Before taking the Bovi Cart in operation, the operator should get familiar with the machine and its controls.
- All people operating, maintaining, testing or inspecting the Bovi Cart should be familiar with the user manual, the standards and the risk of the Bovi Cart.
- Misuse, wrong commissioning or operating of the Bovi Cart can be hazardous for the operator and the lifetime of the Bovi Cart.
- Never aim any of the spray lances toward people or animals other than the hooves of cattle.
- Only use the spray unit to clean the hooves of cattle.

### **3.2.4 MAINTENANCE SAFETY**

Maintenance should only be performed by technicians who are authorized to do so. Also, service technicians should read and understand the user manual before starting any service activity. Follow up to the below-mentioned recommendations for safe maintenance:

- Only trained people are allowed to maintain the Bovi Cart.
- The charger needs to be disconnected from the spray unit.
- The Bovi Cart is switched off.
- Wear protective gloves and goggles, as chemicals might be inside.
- Always apply maintenance in a safe and secured environment.

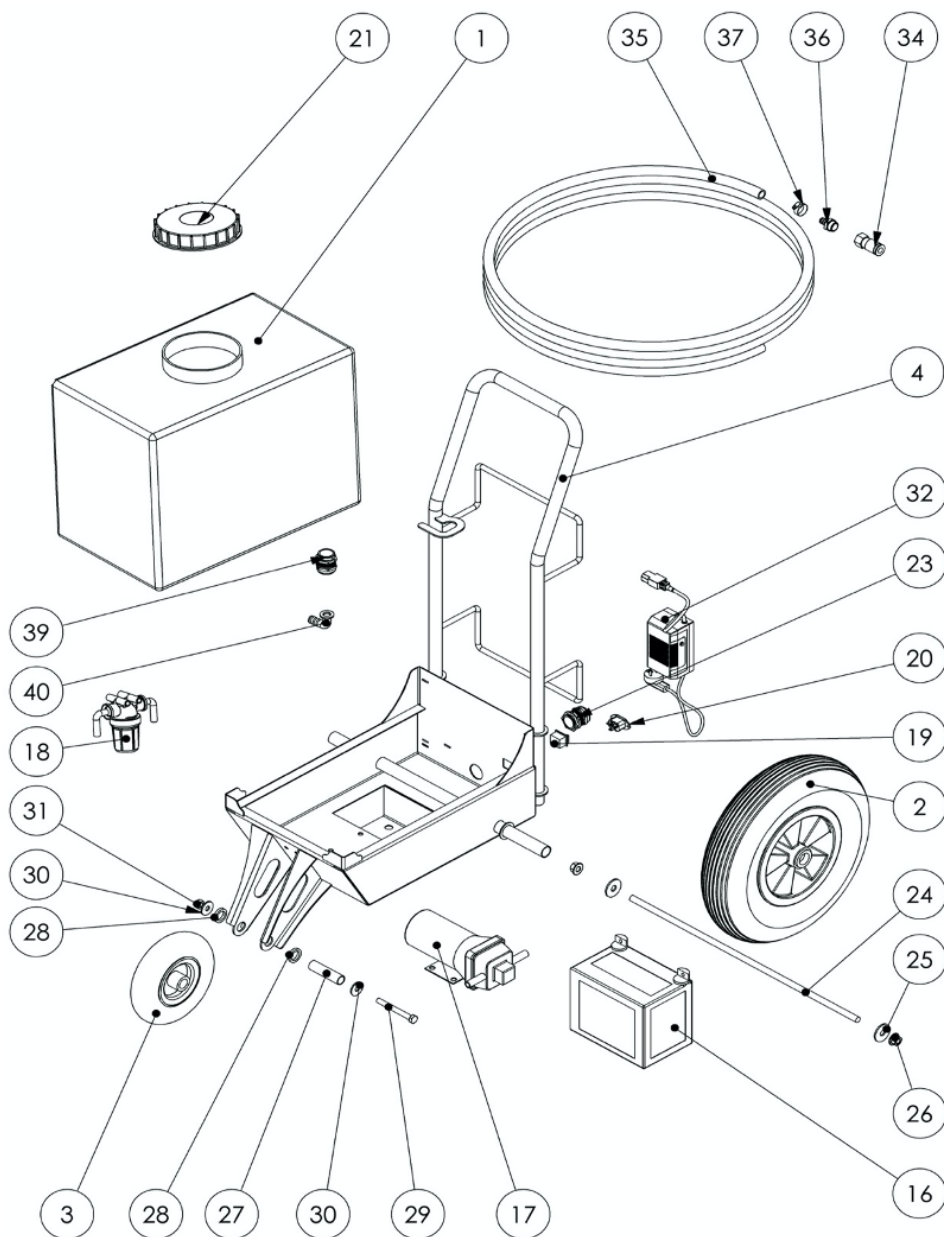


# 4. OPERATION

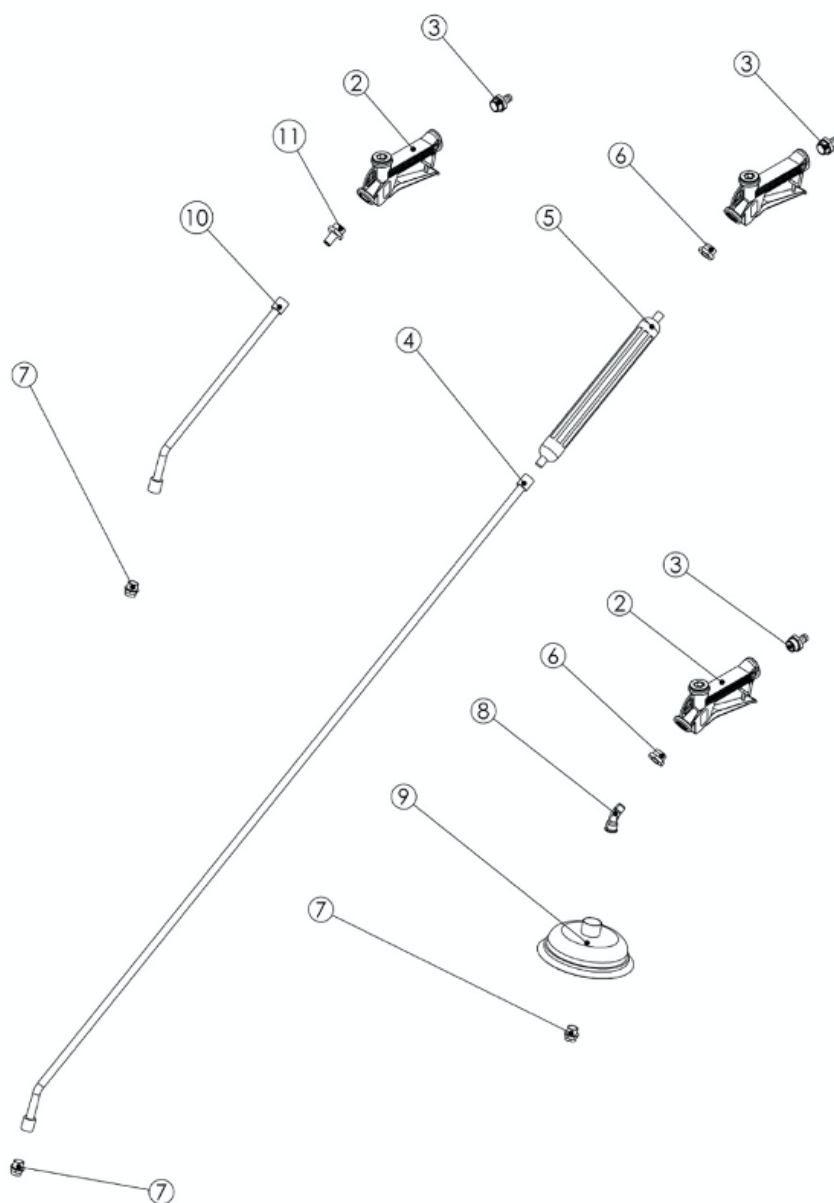
## 4.1 INTRODUCTION

This chapter describes the parts of the Bovi Cart. It also explains how the parts work together to function and how the machine should be operated.

## 4.2 COMPONENT DESCRIPTION



Pos.nr.	pcs	Item nr.	Description	Material	Dimension
1	1	B101	Tank - ISO	Plastic	50x30x38cm
2	2	B102	7093 - 50 l	Plastic & Rubber	GL25x100
3	1	B103	Back Wheel	Plastic & Rubber	GL20x60
4	1	B104	Front Wheel	Powder coated steel	94x90cm
16	1	B105	Frame	Electric	24x11cm
17	2	B106	Barrie Battery - 12V 35Ah	Electric	none
18	3	B107	Flojet MPU 12V	Plastic	none
19	1	B108	Water filter	Electric	none
20	1	B109	Rocker switch,	Electric	none
21	1	B110	IEC-stik, C14, male, 10A 250 V ac	Plastic	165mm
23	1	B111	lid for tank	Plastic	20mm
24	1	B112	Hose Feedthrough	Steel	55x4cm
25	1	B113	Back Sharft SET	Steel	55x4cm
26	1	B114	Back Sharft SET	Steel	55x4cm
27	1	B115	Back Sharft SET	Steel	10x4cm
28	1	B116	Front Sharft Set	Steel	10x4cm
29	1	B117	Front Sharft Set	Steel	10x4cm
30	1	B118	Front Sharft Set	Steel	10x4cm
31	1	B119	Front Sharft Set	Steel	10x4cm
32	1	B120	Front Sharft Set	Electric	none
34	1	B121	Charger 12V 10A - IEC-stik, C13, female	SS AISI 316	1/2"
35	1	B122	SS Coupling Female	PVC-Nitril	12/21mm x 8m
36	1	B123	PVC-Nitril Hose 12/21mm x 8m	Plastic	1/2"
37	1	B124	Hose stud	SS AISI 316	8-16mm
39	1	B125	Clamp	Plastic	3/4" - 3/4"
40	1	B126	Tank connection SET	Plastic	3/4" - 3/4"



Pos.nr.	pcs	Item nr.	Description	Material	Dimension
2	3	B202	Spray Gun	PP/vitron/Aisi 316	2x1/2"
3	3	B203	Coupling male	SS AISI 316	1/2"
4	1	B204	SS spray pipe long	SS AISI 316	132cm
5	1	B205	SS Lance	SS AISI 316	330mm
6	1	B206	Bushing	SS AISI 316	1/2"-1/4"
7	3	B207	Nozzle	SS AISI 316	1/4"
8	1	B208	Elbow	SS Aisi 316	45 f/f 1/4"
9	1	B209	Rubber Cover	Supper	D15,5cm
10	1	B210	SS spray pipe short	SS AISI 316	38cm
11	1	B211	Brass nipple red.	SS AISI 316	1/2-1/4

# THE BOVI CART INCLUDES

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**BOVI WASH LONG LANCE**



**BOVI WASH SHORT LANCE**



**BOVI WASH PISTOL**



**BOVI CART**



## 4.3 OPERATING INSTRUCTIONS

The Bovi Cart is a mobile sprayer with two main modes of operation

- Cleaning of hooves of cattle in the trimming in a hoof care box.
- Cleaning and preventive treatment of heifers and dry cows' hooves locked in headlocks.

### 4.3.1 WASHING OF HOOVES IN A HOOF CARE BOX PRIOR TO DIAGNOSIS OF DISEASES AND TRIMMING

Setting up the Bovi Cart for hoof washing and the hoof care box.

- Fill the water tanks fully. For a fast and comfortable cleaning, it is recommended to use warm water at 30-40 degrees Celsius. **Do not use hot water above 45 degrees Celsius!**
- Low-foaming soap can be used.
- When the Bovi Cart is operated as a hoof washing device at the hoof care box, the short spraying gun is used (see figure 4). Connect the small hand sprayer to the hose of the Bovi Cart.
- Located the Bovi Cart close to the treatment or the hoof care box.
- Release approx. 3 meters of hose and hang the hand sprayer on a convenient place on the hoof care box or on the Bovi Cart.
- Switch on the power plug. The pump will crank a few times and then stop when it has reached its maximum pressure. The Bovi Cart is now ready to wash hooves.
- Place cattle in the hoof care box and lift one hoof.
- Take the hand sprayer and place it above the hoof aiming at the center of the hoof.
- Squeeze the trigger on the hand sprayer to start spraying. First wash off excess manure, then move the hand sprayer closer to spray of sticking manure and any crusts of manure.
- Use your other hand to wash of all dirt around and between the hooves. Make sure you are able to see
- clean skin all around the edges of the hooves and in between.



Washing of a hoof with the hand spray gun with short lance.



#### 4.3.2 TREATMENT OF HOOVES WITH NON-LACTATING ANIMALS TO PREVENT BACTERIAL HOOVES AND SKIN DISEASES (\*).

The purpose of this treatment is to prevent bacterial infections on the cattle's hooves and hoof skin. The treatment is aimed at the interdigital area between the hooves, the edges of the hooves and the back of the hoof up to the dew-claws

##### Setting up the Bovi Cart for the treatment

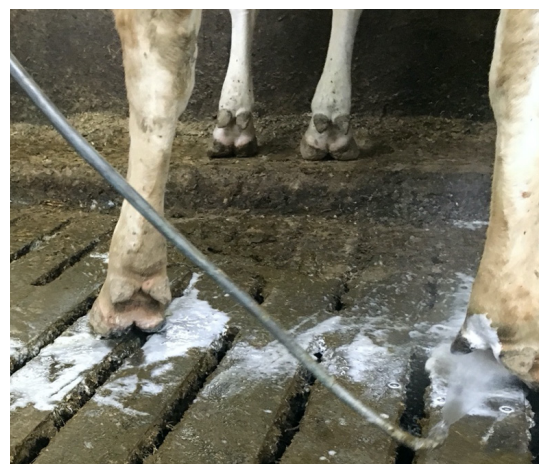
- Connect the long spraying lance to the hose. Push back the ring of the stainless-steel connector to connect the lance. **Do not use water above 45 degrees Celcius! Use only clean tap water to fill the water tank!** Never mix water with chemicals in the water tank!
- Fill in the water tank of the Bovi Cart with 50 liters of clean water between 0-40 °C.
- Use a 3% mixture for preventative treatment (1,5-liter Bovi concentrate is poured into the container).
- Use a 14% mixture if the skin is already under infection (7-liter Bovi concentrate is poured into the container).



Washing of a hoof with the hand spray gun with short lance.



Inspection of the hoof after cleaning.



Preventative treatment.

**Always wear protective gloves and goggles when handling chemical products. Take note of the H (Hazard) and P (Precautions) mentioned on the label and in the Material Safety Data Sheet and follow up to the guidelines.**

**(\*) Note:** When mentioning (non-lactating) cows, it is referred to dry cows and young stock.

### **Prepare the cows for treatment.**

Fetch cattle that are still not locked in the headlock fence and try to get them locked.



**For practical/safety reasons: For this treatment cows must be secured to the feeding fence.**

### **Start of the treatment**

For small groups of less than 15 animals:

- Move the Bovi Cart to the feed fence at the middle of the fence. Leave the Bovi Cart on the feed alley and take the lance gun with the hose over the fence behind the cattle.
- From here you can treat cattle to your left and right using the length of the hose. With a standard hose length of 10m you can reach 7 cattle on both sides.
- Turn on the pump by pushing the switch button at the back of the sprayer. You will hear the pump crank and stop when it reaches its max pressure.
- Place the tip of the lance close to the back of the hoof, aiming forward through the slot of the hooves.
- Now squeeze the trigger of the pistol to create a well-aimed spray through the interdigital section of the hoof. If done successfully, you will see the spray come through at the front side of the hoof.

### **For large groups of more than 15 animals:**

- Move the Bovi Cart into the pen behind the first cow of the line. Working with the Bovi Cart it is easiest when you pull the machine backwards as you pass the cattle. You will need 1m of hose hanging loose from the hose rail.
- Turn on the pump by pushing the switch button at the back of the sprayer. You will hear the pump crank and stop when it reaches its max pressure.
- Place the tip of the lance close to the back of the hoof, aiming forward through the slot of the hooves.
- Now squeeze the trigger of the pistol to create a well-aimed spray through the interdigital section of the hoof. If done successfully, you will see the spray come through at the front side of the hoof.

## 5. MAINTENANCE

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This chapter contains the maintenance procedures for the Discovery. It also contains basic corrective maintenance procedures.

### 5.1 REPLACING OF BATTERY

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- Remove the water container
- Disconnect the battery and lift it out
- Put a new battery in place.

### 5.2 CLEANING THE FILTER

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- Unscrew the filter cap and take out the filter element.
- Clean the filter element and mount it in reversed order.

### 5.3 REPLACING THE PUMP

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- Remove the water container
- Pull out the seal clips that hold the hose connectors to the pump. There is no need to unscrew the hose clamps. The connectors can be pulled out of the pump.
- Disconnect the power wires
- Unscrew the bolts that hold the pump to the bottom of the unit.
- Lift out the pump.
- Remove the hose connectors from the new pump and mount the pump in the frame.
- Connect the hose connectors still attached to the hoses.
- Connect the power wires
- Re-assemble the water tank.



## 6. TROUBLESHOOTING

Problem	Check	Solution
Pump does not work	Is the battery charged?	Connect charger between the Meteor MS50 charger socket and a grid power plugg. If the indicator on the charger shows orange or red, the battery is not fully charged. In case, let the battery charge until the indicator shows green. this can take several hours.
Pump runs but there is no water spray beam	Water filter	Unscrew the cover plate bolts. Remove the cover plate. Remove the water tank by tilting it forward. Check the water filter for debris.
	Nozzle	Unscrew the spray nozzle at the end of the gun or lance and check it for dirt clogging in the nozzle channel.

# EC- DECLARATION OF CONFORMITY

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AS DEFINED BY THE MACHINERY DIRECTIVE 2006/42/EG, ANNEX II A

**Manufacturer**            Bovi Hoof Care  
                                  Sejrupsvej 27  
                                  7323 Give, Denmark

**Herewith we declare that the model**  
**Product**                    Bovi Cart

**Complies with the following provisions applying to it**  
2006/42/EG Machine Directive

**Put up in**                    Give, Denmark  
**Signed by**                 Bovi Hoof Care

A handwritten signature in black ink, appearing to read "Henrik Héin Jørgensen".

Henrik Héin Jørgensen

A dark blue background with a white silhouette of a horse in the center. The text "BECAUSE MORE KNOWLEDGE, BRINGS MORE VALUE" is written in white, bold, uppercase letters across the middle.

**BECAUSE MORE KNOWLEDGE,  
BRINGS MORE VALUE**

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