



Periodical preventative  
maintenance

Marina Shower trolley

## Marina Shower trolley

61002300 (hydraulic, standard)  
61002305 (hydraulic, wide)  
61002305 (hydraulic, central braking)  
61002320 (hydraulic, short)  
61002330 (hydraulic, long)  
61002345 (hydraulic, wide and long)

61002350 (electric, standard)  
61002355 (electric, wide)  
61002360 (electric, central braking)  
61002370 (electric, short)  
61002380 (electric, long)  
61002385 (electric, wide and long)



### Important!

The Marina should be inspected at least once a year.

Repairs and maintenance should be undertaken only by staff authorised to do so by Lopital Nederland BV, and with original spare parts.

Making changes to the construction could affect the safety of the Marina. This will also lead to Lopital's liability and warranty conditions being invalidated. As a result, the Marina will no longer comply with the guidelines for medical devices.

Each inspection or repair must be entered to the log.

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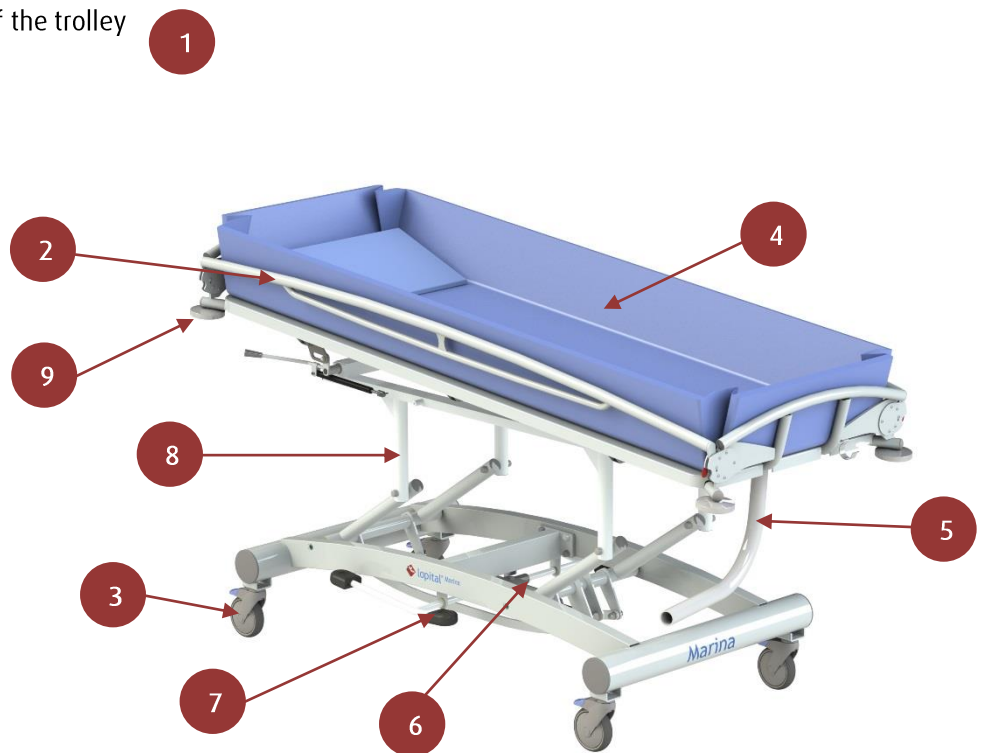
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## Hydraulic

- 1. General condition of the trolley
- 2. Side barriers
- 3. Wheels
- 4. Mattress + Pillow
- 5. Outlet hose
- 6. Pump
- 7. Pedals
- 8. Levers
- 9. Buffer discs

C= Check  
 S= Service/lubricate  
 A= Replacement advised  
 V= Replacement

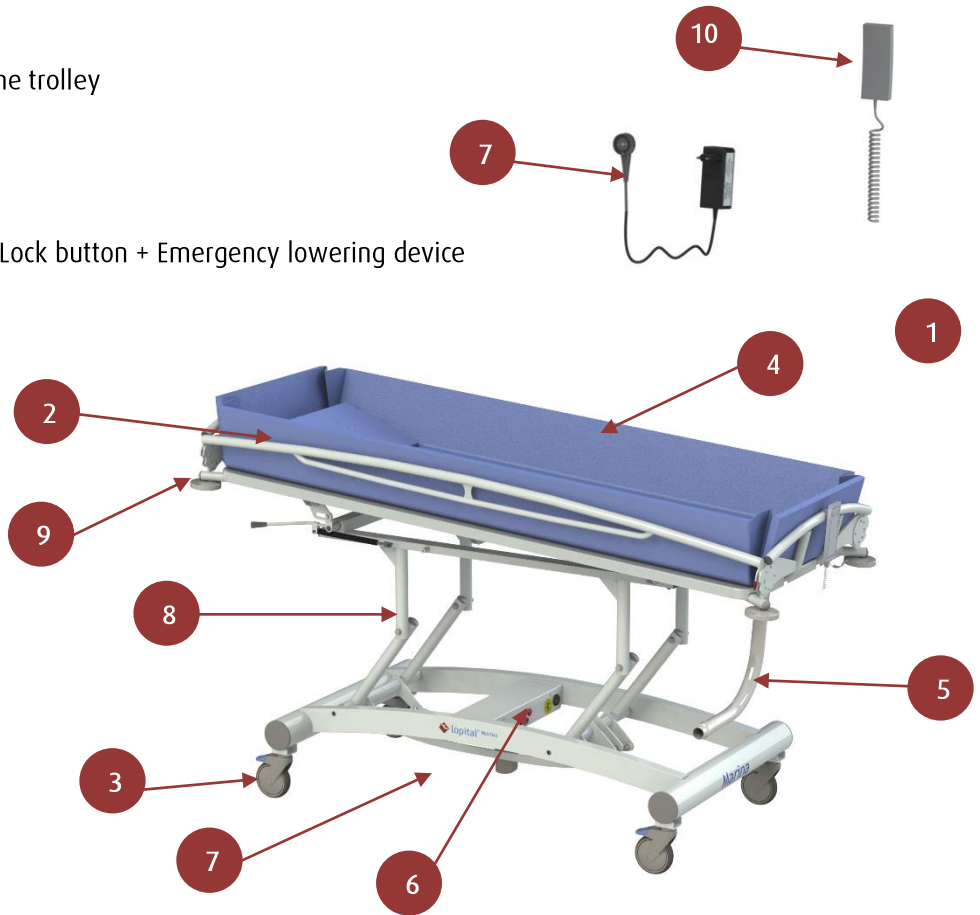


Month	12	24	36	48	60	72	84	96	108	120
General condition	C	C	C	C	C	C	C	C	C	C
Side barriers	S	S	S	S	S	S	S	S	S	S
Wheels	C	C	C	C	C	C	C	C	C	C
Mattress + pillow	C	C	C	C	A	C	C	C	C	A
Outlet hose	C	C	A	C	C	A	C	C	A	C
Pump	C	C	C	C	C	C	C	C	C	C
Pedals	C	C	C	C	C	C	C	C	C	C
Buffer discs	C	C	C	A	C	C	C	A	C	C
Levers	C	C	C	C	C	C	C	C	C	C

**Electric**

1. General condition of the trolley
2. Side barriers
3. Wheels
4. Mattress + Pillow
5. Outlet hose
6. Battery + Operation + Lock button + Emergency lowering device
7. Charger
8. Levers
9. Buffer discs
10. Operation

C= Check  
 S= Service/lubricate  
 A= Replacement advised  
 V= Replacement



Month	12	24	36	48	60	72	84	96	108	120
General condition	C	C	C	C	C	C	C	C	C	C
Side barriers	S	S	S	S	S	S	S	S	S	S
Wheels	C	C	C	A	C	C	C	A	C	C
Mattress + pillow	C	C	C	C	A	C	C	C	C	A
Outlet hose	C	C	A	C	C	A	C	C	A	C
Operation	C	C	C	C	C	C	C	C	C	C
Battery + Battery charger	C	C	A	C	C	A	C	C	A	C
Buffer discs	C	C	A	C	C	A	C	C	A	C
Levers	C	C	C	C	C	C	C	C	C	C
Lock button	C	C	C	A	C	C	C	A	C	C
Emergency lowering device	C	C	C	C	C	C	C	C	C	C

# 1. General condition of the trolley

Month	12	24	36	48	60	72	84	96	108	120
	C	C	C	C	C	C	C	C	C	C

### Required tools

- Touch- up pen Sikkens A77A2
- Digital spirit level
- Marina maintenance support bars
- Allen keys (3,5,6,8)
- Open-end/ring spanners (10,13,17,19)

- Visually check if the log, the instructioncart and the user manual are available. When it's not available, report this by the user.
- Visually check if all stickers are present and legible. Can you read the serial number yet?
- The CE Sticker should be present and clearly legible. This also applies to the sticker with inspection date.
- Visually check all painted parts for damage and corrosion. Touch up if necessary.
- Replace instert caps if they are damaged.
- Are all the screws present and securely fitted?
- Check whether the bolts of the actuator are securely fitted, both at the top and at the bottom.
- Does the trolley move up and down smoothly?

### Present:

- Mattress + pillow
- Charger (only electrical versions)
- Manual (only electrical versions)

# 2. Side barriers

Month	12	24	36	48	60	72	84	96	108	120
	S	S	S	S	S	S	S	S	S	S

### Required tools

- Allen key 3 mm
- Ceramic grease spray 03.0121

- Both side barriers should open and close smoothly.
- They should be easy to lock and unlock.
- Check whether all the bolts are present and tightly screwed.
- The black or red submersible cap should be undamaged.
- Lubricate the hinge between the two hinge plates (preferably with innotec ceramic grease) after removing any excess dirt and corrosion.



Figure 1 Side barriers lock

### 3. Wheels

Month	12	24	36	48	60	72	84	96	108	120
	C	C	C	C	C	C	C	C	C	C

**Required tools**

- Allen key 8mm
- Open-end/ring spanner 17 mm
- Lock nut M10 (4x)
- Derrick for Marina trolley

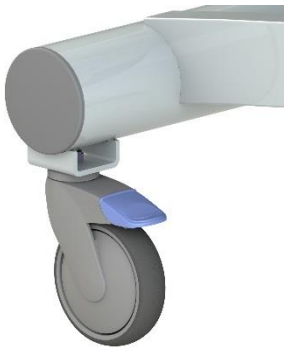


Figure 2 Wheel



Figure 3 wheel exploded view

- Check the attachment of the wheel (Tolerance)
- Check freewheel function + brakes.
- Do all four the wheels touch the floor on a flat surface? If not, check the shower trolley right course.
- Brake lip intact?
- Check the tread.
- If the castors are very stiff, you should try to solve this by cleaning them. If this means they have to be detached, they should be refitted afterwards with a new lock nut.

Replace the wheels if they are damaged or worn.

Older wheels, before July 2014



Figure 4 Wheel

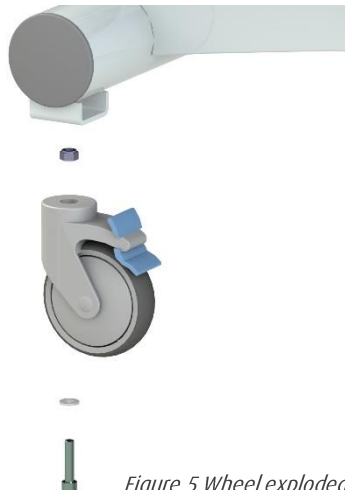


Figure 5 Wheel exploded view

**Required tools**

- Boxspanner 17 mm
- Allen key 8 mm

- Check the attachment of the wheel (Tolerance)
- Check freewheel function + brakes.
- Do all four the wheels touch the floor on a flat surface? If not, check the shower trolley right course.
- Brake lip intact?
- Check the tread.

Replace the wheels if they are damaged or worn.

## 4. Mattress + pillow

Month	12	24	36	48	60	72	84	96	108	120
	C	C	C	C	A	C	C	C	C	A

Required tools
-

Check for any damage and replace where necessary.

Failure items:

- Damage
- Torn fabric
- Damp in mattress
- Severe discolouration
- Severe mould (mainly on underside)

You could ask the mattress to be cleaned thoroughly and check again.

For reasons of hygiene, it is recommended to replace mattress and pillow once every 5 years.

## 5. Outlet hose

Month	12	24	36	48	60	72	84	96	108	120
	C	C	A	C	C	A	C	C	A	C

Required tools
-

Check for any kinks, leaks and blockages.

Failure items:

- Kinks
- Cracks
- Blockage
- Cracked swivel
- Outlet damaged

For reasons of wear and tear, blockage and hygiene, it is strongly recommended to replace the outlet hose once every 3 years.

1. Outlet
2. Seal
3. Outlet hose

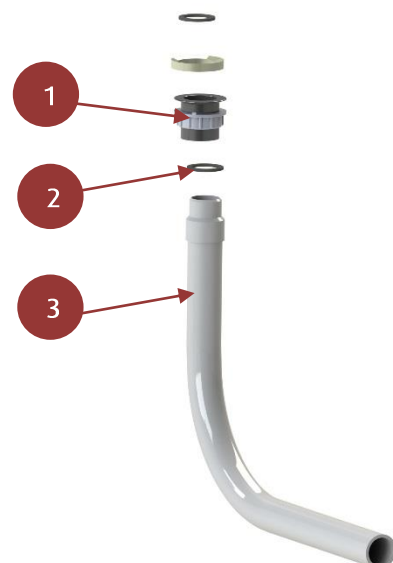


Figure 6 Hose

## 6. Lever

Month	12	24	36	48	60	72	84	96	108	120
	C	VC	C	VC	C	VC	C	VC	C	VC

### Required tools

- Soft hammer
- Flat screwdriver
- Digital spirit level
- Retaining ring pliers

Check for any damage. If the lever is bent, it should be replaced. If it is from aluminium, it should be replaced as a precaution.

Remove insert cap.

If the bearings of the levers have been worn away to an extreme level, the trolley should be returned to Lopital.

Check retaining rings (8 in total; they connect the subframe to the two levers).

1. Insert cap
2. Lever
3. Bearing

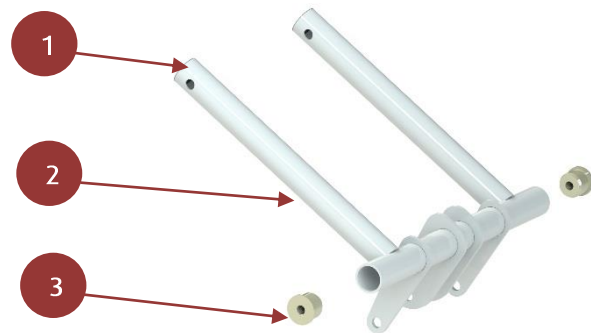


Figure 7 Lever

## 7. Buffer discs

Month	12	24	36	48	60	72	84	96	108	120
	C	C	C	A	C	C	C	A	C	C

### Required tools

- Open-end/ringspanner 10 mm
- Loctite (blue)
- Ceramic grease

The buffer discs should rotate smoothly. If the buffer discs are damaged or worn, e.g. parts of the disc missing, they should be replaced.

It is recommended to replace the buffer discs once every 4 years.

Method

- Unscrew bolts
- Inspect sleeves and buffer discs (if damaged: new ones)

Assembly

- Put grease on the sleeves
- Put loctite on the thread of the M6 bolt.
- Tighten buffer discs.

1. Fitting sleeve/cap
2. Buffer disc
3. M6 bolt

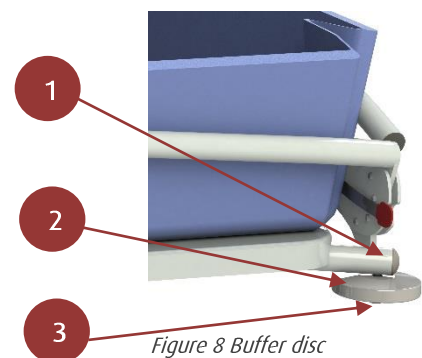


Figure 8 Buffer disc



## Only for Electrical Marina

61002350, 61002355, 61002360, 61002370, 61002380, 61002385

### 8. Operation, lock button and emergency lowering device

Month	12	24	36	48	60	72	84	96	108	120
Lock button	C	C	C	A	C	C	C	A	C	C
Emergency lowering device	C	C	C	C	C	C	C	C	C	C
Operation	C	C	C	C	C	C	C	C	C	C

#### Required tools

- Multimeter

- Check all functions (also pay attention to any noise)
- When the emergency lowering button is pressed, the lying surface should lower
- When the lock button is pressed, the shower trolley should not respond to any command.
- When the electric connections are corroded, they have to be cleaned and sprayed with contact spray.
- Replace manual operation if the cable is damaged, kinked or overstretched.
- Check cable of the actuator for any kinks or other damage.

1. Connection for manual operation
2. Control box
3. Lock button
4. Emergency lowering device

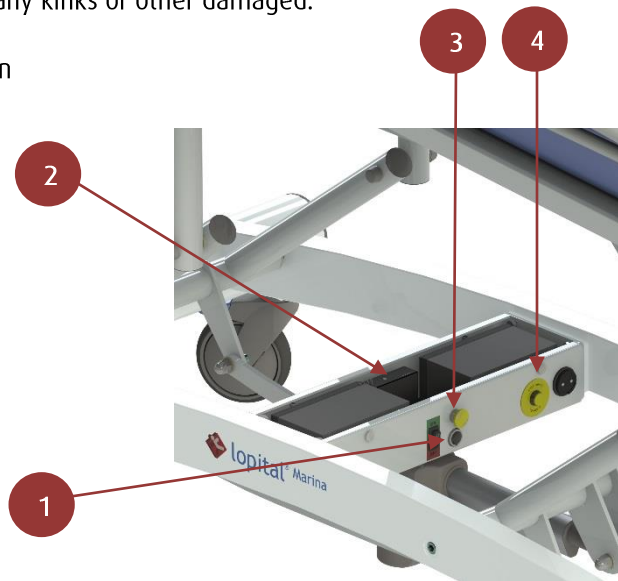


Figure 9 Electrical components

### Required tools

- Battery tester
- Contactspray

## 9. Battery

Month	12	24	36	48	60	72	84	96	108	120
	C	C	A	C	C	A	C	C	A	C

- A battery can be checked only when it is charged! Measure batteries individually.
- Replace if  $\leq 4,5\text{Ah}$  ( $\leq 65\%$ )
- Always replace both batteries.
- Write the replacement date on the battery (waterproof pen) and put a new sticker on the rear of the motor cover.

It is strongly recommended to replace the battery once every 3 years.

### Method:

Put the shower trolley in a high position and detach the plug from the manual controls.

1. Remove pressure nails (4x).

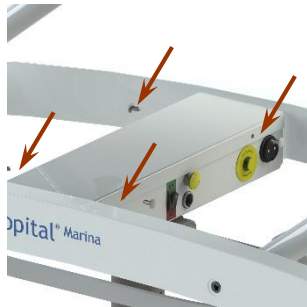


Figure 10 Cap

2. The cap can now be tilted up.



Figure 11 Cap removed

3. Replace batteries. Write the replacement date on the battery. Connect all the cables; the red positive pole should be connected last. Refit cap and secure. Test the shower trolley.

## 10. Battery charger

Month	12	24	36	48	60	72	84	96	108	120
	C	C	C	C	C	C	C	C	C	C

### Required tools

- NEN 3140 Test equipment

- The charger must be tested each year in accordance with NEN 3140 and provided with an identification sticker and NEN 3140 sticker.
- Check charger for any damage (plug + cable + contact); if the cable is damaged, replace the whole charger.
- Check the charging voltage; it should be at least the value as indicated on the charger, and be more than 27 Volt.
- Check whether there is too much corrosion on the connectors; also check the charger connector on the chair.



Figure 12 Charger

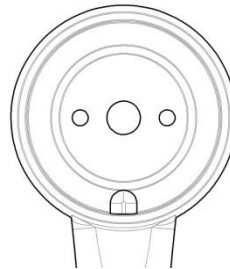


Figure 13 Charge plug



For more information, visit our website: [www.lopital.com](http://www.lopital.com)

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