lopital®

If caregivers have a choice, they choose Lopital

Periodical preventative maintenance and inspection

Reflex Shower-toiletchair

Reflex Douche-Toilet stoel
51005600

Reflex Douche-Toilet stoel
51005605

Important!

The Reflex must be serviced and inspected at least once a year.

Service and maintenance of the Reflex is only permitted by qualified persons and using original spare parts.

Making changes to the construction could affect the safety of the Reflex. This will also lead to Lopital's liability and warranty conditions being invalidated. As a result, the Reflex will no longer comply with the regulation MDR (EU) 217/745 for medical devices.

Each inspection or repair must be entered to the log.

The average technical life of the Reflex is 10 years, assuming it is cleaned daily and regularly maintained supplied.

Manufacturer:

Lopital Nederland B.V.
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www.lopital.com, info@lopital.nl

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

Month	12	24	36	48	60	72	84	96	108	120
General condition	C	C	C	C	C	C	C	C	C	C
PUR	C	C	C	C	A	C	C	C	C	A
Operation	C	C	C	C	C	C	C	C	C	C
Wheels	C	C	C	C	C	C	C	C	C	C
Armrest (front closure)	C	C	C	C	C	C	C	C	C	C
Chair support/levers	C	VC	C	VC	C	VC	C	VC	C	VC
Tilt actuator	C	C	C	C	C	C	C	C	C	C
Footrest	C	C	C	C	C	C	C	C	C	C
Battery	C	C	A	C	C	A	C	C	A	C
Battery charger	C	C	C	C	C	C	C	C	C	C
Hinge point	S	S	V	S	S	V	S	S	V	S
Control (older version)	R	R	R	R	R	R	R	R	R	R

1. General condition of the chair

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

Required tools

- Touch- up pen Sikkens A77A2

- Visually check if all labels are present and legible.
  - Serialnumberlabel:
    - Is the serial number still legible?
    - Is the datamatrix still readable for a scanner?
    - Is the CE logo still visible?
  - Inspectionlabel:
    - Is the inspection date still legible?
  - QR label:
    - Is the QR code still readable for a QR scanner?
- Visually check all painted parts for damage and corossion. Touch up if necessary.
- Chairs before production year 2005 has to be checked extra good at corrosion on the seat carriers (under the PUR) and corrosion on the chassis (especially between the square turrets where the batteries are, don't remove the caps). *(See figure 1 and 2).* Remove the actuator cap.
- Check PUR parts for severe discolouration (Brown in particular) and damage.
- Are all the screws present and securely fitted? Also that of the guide?
- Check the buttons for damage on controlpanel. When the controlpanel is damaged, replace the backrest cap.

Figure 1 Chair supports

For reasons of hygiene, it is strongly recommended to replace the seat, lid and back once every 5 years.

Present:

- Foot support (not a failure item)
- Head support (not a failure item)
- Lid of seat (not a failure item)
- Key for emergency lowering device (not a failure item)
- Charger

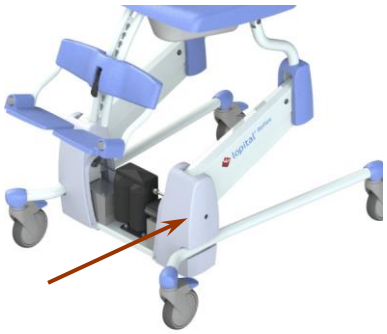


Figure 2 Colums

Required tools

- Battery tester
- Contactspray
- Screwdriver

2. Batteries

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 ≤ 4,5Ah (≤ 65%)
- Always replace both batteries.
- Write the replacement date on the battery (waterproof pen) and put a new label on the rear of the motor cover.

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

Method:

1. Put the chair in a high position.
Unscrew screws (4x) and lift cover. *(See figure 3)*

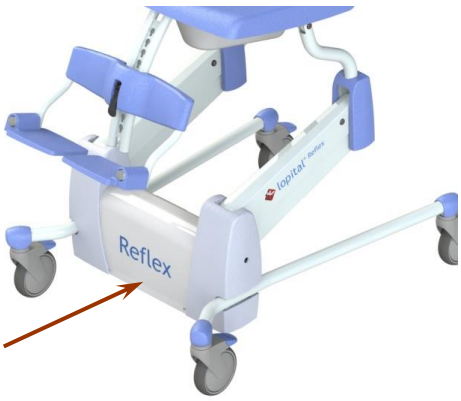


Figure 3 Cap

2. Disconnect battery cables (the red plus pole first)

Figure 4 Batteries

3. Detach M6 screws under the motors.
Tilt the motors. *(See figure 5)*

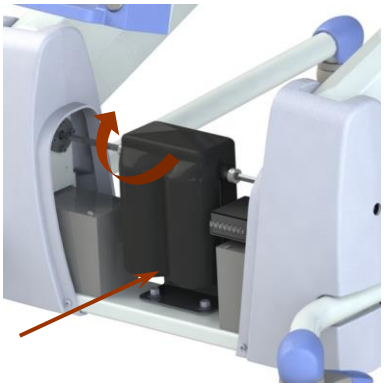


Figure 5 Motor

4. Replace batteries

Write the replacement date on the battery. Tilt the motor back and refasten the M6 screw.

Note: Before the batteries are reconnected and the cap is replaced, you need to clean the controller, see Chapter 3 Control.

3. Control

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

Required tools

- Electrical cleaner
- Flat nose pliers
- Screwdriver
- Cleaning cloth

New version: **from** **Serial number 5600.15.202**
Serial number 5605.15.062

The controlbox has changed. It is not necessary to clean the controlbox every year.

On the picture below you can see the new situation.

When the chair has an older Serial number, follow the steps on the next page.

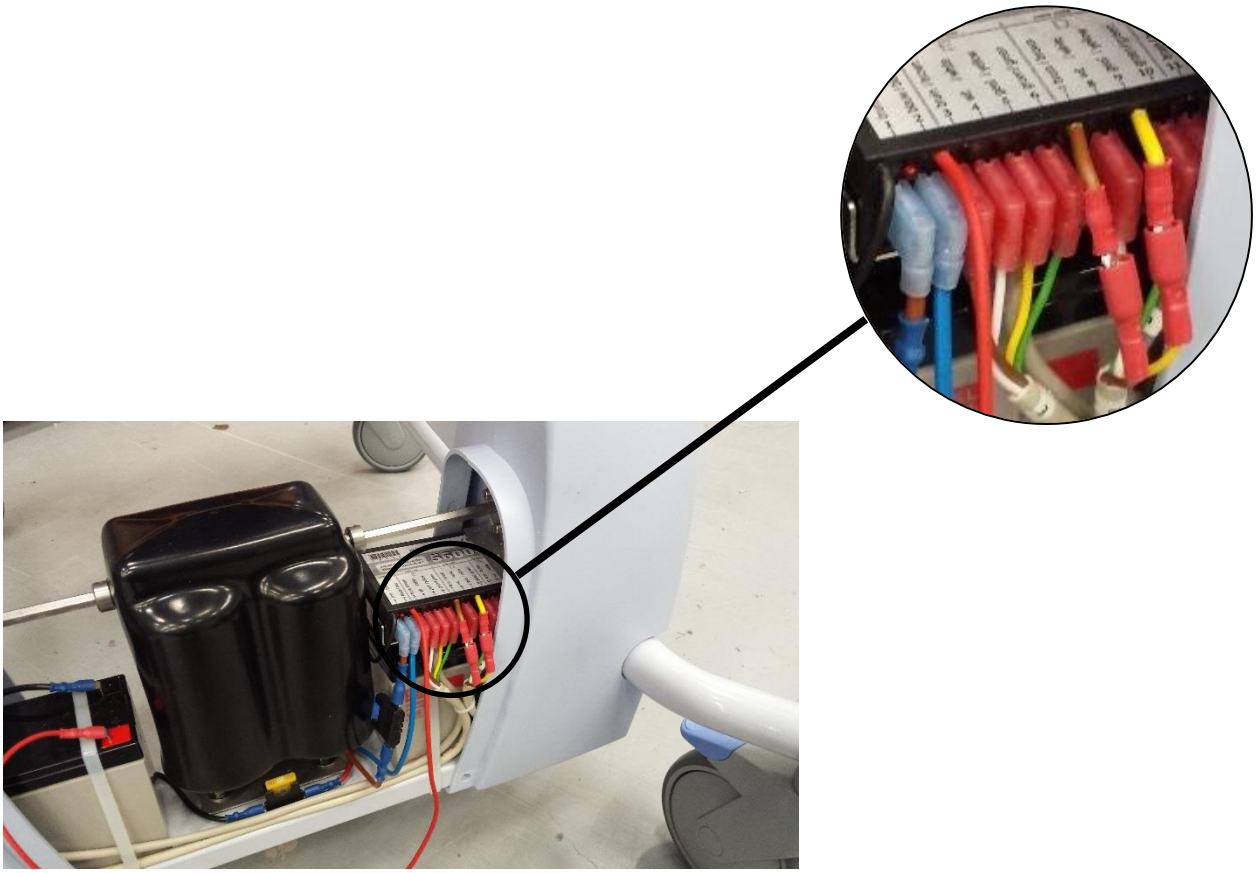


Figure 6 Control

Older version: Before Serial number 5600.15.202
Serial number 5605.15.062

Those chairs have a controlbox which has to be cleaned every year. Please follow the steps below to make sure you cleaned the controlbox in the right way.

Method:

1. Cut the tyraps of the cables so that the cables are disconnected. Please note that the battery cables are not connected, the controller is energized.

Figure 7 Control

2. Remove the plugs of the controller.

Figuur 8 Disassemble plugs

3. Disassemble the control.

Figure 9Disassemble the control

4. Clean the control well with Electrical cleaner, both the terminals and the bottom. Also clean the casing of the connectors

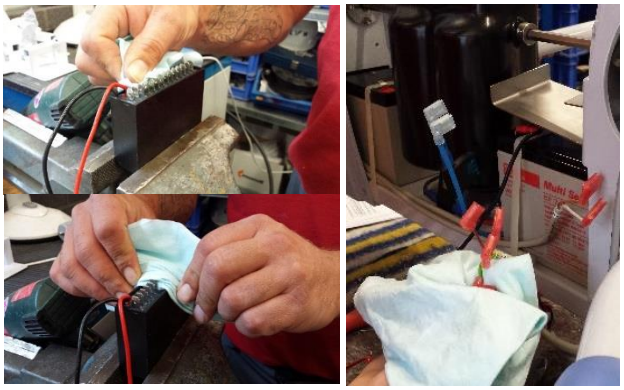


Figure 10 Cleaning control+ casing connectors

5. Place the control back and connect the control. Pay attention to the coding of the cables (M.E.D.A.B.). Squeeze the shells of the connectors firmly with pliers.

Figure 11 Connect control

6. Connect the battery cables. The red positive terminal last. Replace the cover and tighten the screws.

   Test the operation of the chair.

New version: from Serial number 5600.22.218

Serial number 5605.22.174

These chairs are equipped with a control that also needs to be cleaned every year.

Figure 12 New control

4. 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 label and NEN 3140 label.
- 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 13 Charger

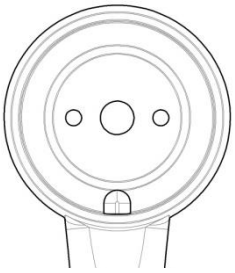


Figure 14 Charge plug

Older version, before April 2016

The following version charger / charging cable should be checked at the same points as the charger above. If the charger does not comply with the control points, it will be replaced with a new charger. To do this, the entire back shell have to be replace.

Figure 15 Charger

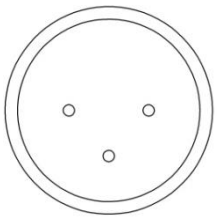


Figure 16 Charge plug

5. Operation and Lock button

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

Required tools

-

- Check whether the back cover is not torn and still fits properly.
- Check operating panel for any damage.
- Check whether all the buttons are working (both left and right from the head support).
- Check all functions. Also pay attention to any noise (rattling /squeaking) and any jolting/faltering.
    - Fully up/down (controls switching off at maximum position).
    - Fully tilting.
    - Operation of lock button + LED + reset lock button.
- The chair should go into "sleep mode" when the charger is connected.
- Check functioning of lowering safety device.

Method:

- Put the chair on the brake.
- Block the downward movement of the chair by putting something (e.g. a beam) between the floor and the support beam/scissor mechanism, and check whether the chair switches itself off (you should hear a "click").
- Ensure that the downward movement stops.
- Check the left and right section of the scissor mechanism separately.

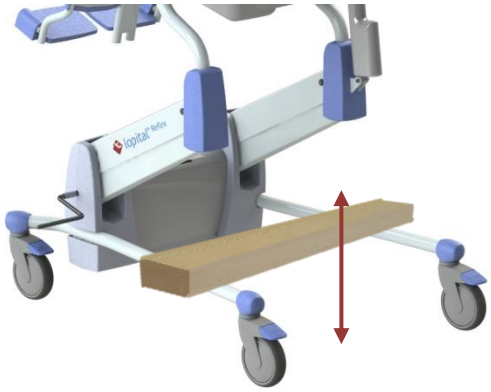


Figure 17

6. 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

Figure 18 Wheel

Figure 19 wheel exploded

- 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 chair right course.
- Brake lip intact?
- Check the tread.

Replace the wheels if they are damaged or worn.

Older wheels, before July 2014

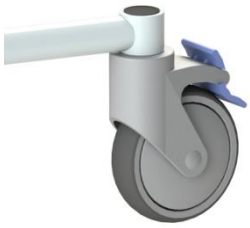


Figure 20 Wheel

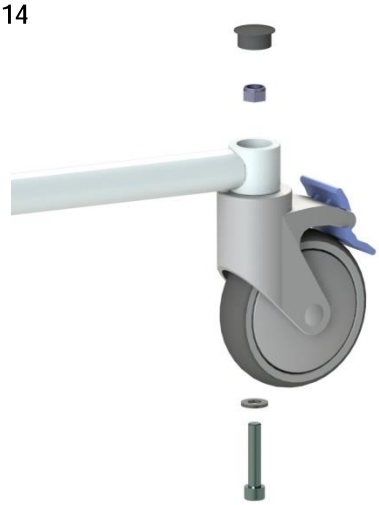


Figure 21 Wheel exploded view

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 chair right course.
- Brake lip intact?
- Check the tread.

Replace the wheels if they are damaged or worn.

Chairs that are made before July 2014 are equipped with steel wheel clots. For those clots we have a cover to protect against damage.

Place the cover on the steel wheel clots, is it is not done already.

- Remove the decorative plug
- Is there corrosion on the wheel clots?
- Remove loose corrosion with a wirebrush.
- Treat the wheel clots with rust converter Noverox.
- Paint the wheel clots.
- Let the paint dry.
- Place the cover over the wheel clots.

Required tools

- Plastic hammer
- Rust converter Noverox

Figure 22 Cover

7. Armrests (front closure)

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 6mm

Figure 23 Armrest

- Inspect its functioning, and check for any damage, corrosion.
- Check its room for motion, measured at the front point (replace if it is more than 4 cm.) *(See figure 23).*
- Always treat corossion.
- Are the arm supports evenly positioned?
- Slide PUR back if necessary.
- **The stainless-steel (A2) screws and M8x16 DIN912 quality12.9. should always be replaced by a Super Duplex 4529 screw M8x16 (Order this screw by Lopital B.V. Art.no. 75005640)**
- Clean and grease the hinge when the screw is removed.
- Fastly secure screws. *(See figure 22)*

Figure 24 Screw

Look for an exploded view on www.lopital.com

8. Chair support/scissor mechanism/main lever

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

Required tools

- Crosshead screwdriver
- Spanner 8 mm
- Allen key 5 mm

Up to serial number RFL 080501099-CO:

- Check for any damages
- Check M6 screw (head /nut sleeve) (under PUR cover).

Replace M5 screws once every other year (at the top of chair support). *(See figure 25)*

If the holes in the chair support have been worn away to an extreme level, replace the screws by brass tilting levers.

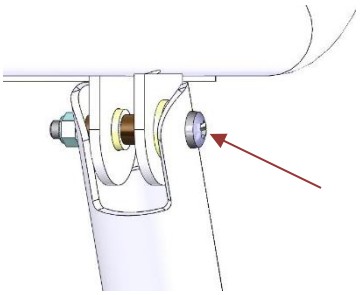


Figure 25 Screw chair support

1. 1 Unscrew the screw and remove all the bearings, including those from the chair frame.

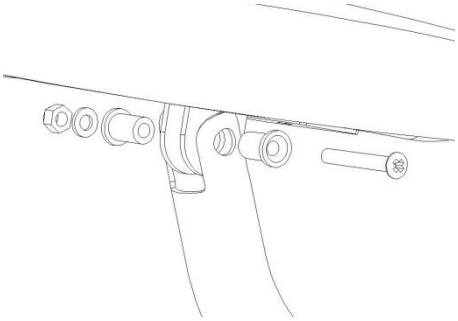


Figure 26 Mounting chair support

2. Drill the hole in the chair support to ø11.
   PLEASE NOTE: a cable runs through the left chair support!
   Remove all chips after drilling.

3. Fit the tilting bearings (70560028) into the chair support and the frame. Fit the screw, washer and lock nut. M6x45 DIN966. Check whether the chair tilts smoothly.

From serial number RFL080501099-CO:

Chairs from serial number RFL080501099 have a chair support fitted with an axle and plastic sleeves.

The way in which the top hinge point in the chair support is services has changed, see next pages.

Required tools

- Crosshead screwdriver
- Spanner 8 mm

Check whether the scissor mechanism and main levers leave any room for motion. Room for motion may occur on the left in particular. **When there is excessive room for motion, the part causing that room should be replaced.**

- This is necessary in order to maintain the structural quality. Whether or not there is excessive room for motion should be assessed by the mechanic.
- Check retaining rings (10 in total).

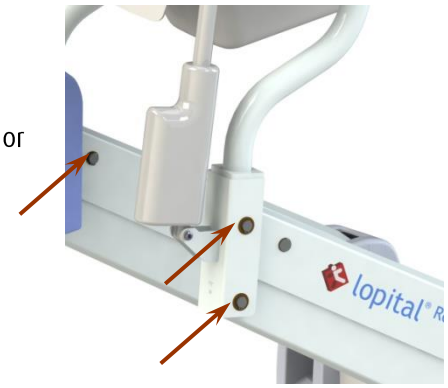


Figure 27 Axis, retaining rings en plastic bushes

Hinge point

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

Required tools

- Crosshead screwdriver
- Spanner 8mm

Endurance tests shows us that in the hinge point where the seat carrier and the seat frame are connected to each other, the brass bearing begin to show a groove wear after some time.

Therefore, this should be checked and lubricated bearing every year, and are **replaced every three years** to ensure the safety and quality.

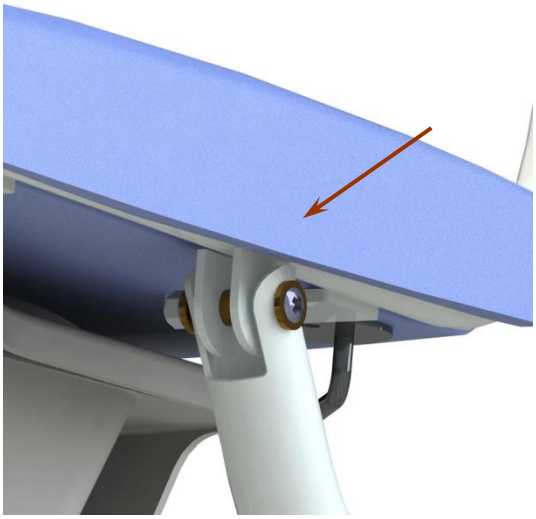


Figure 28 Hinge point

9. Tilt actuator

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

Required tools

- Crosshead screwdriver
- Spanner 8mm

- Check actuator for any damage.
- Check cable for any damage.
- Check screws + nuts.

Room for motion more than 5 mm: replace actuator. Don't test in top position *(See figure 29)*

Method:

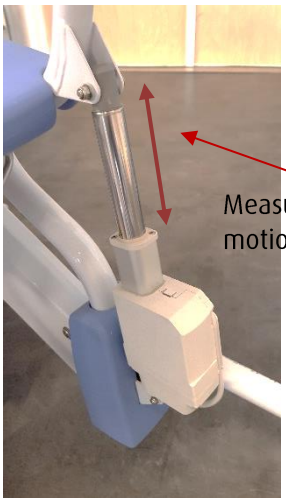


Figure 29 Room for motion

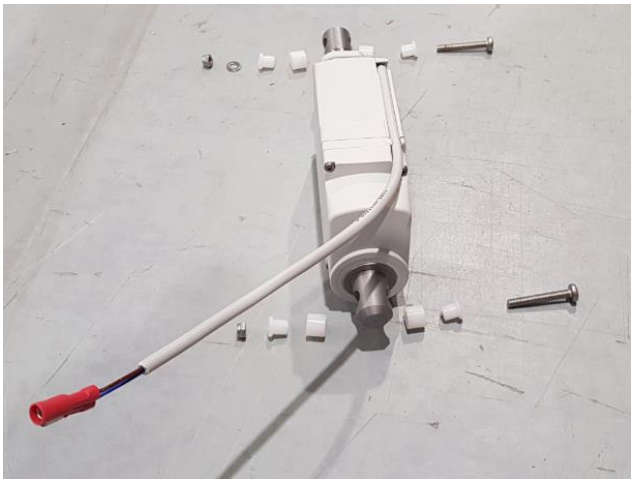


Figure 30 Tilt actuator

- Cut tiewrap.
- Unscrew screws.
- Detach plastic bearings.
- Detach actuator (NB: cable).
- Fit new actuator.
- Fit sleeve bearings.
- Tighten screws.
- Fit new tiewrap.
- Test tilting function.

10. Footrest

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

Required tools

- Allan key 4mm

New version: from Serial number 5600.17.192
Serial number 5605.17.052

- Check for any damage.
- Fold up foot plates (should be stiff and stay upright). (They should remain in the folded position, without falling back automatically)
- Are the foot plates evenly fitted and slanting upwards a little towards the middle?
- Is the leg support securely fastened at different heights? Try different heights.
- Is the tightening handle present? (Art. No. 70560009).
- Is the footplate cap present?

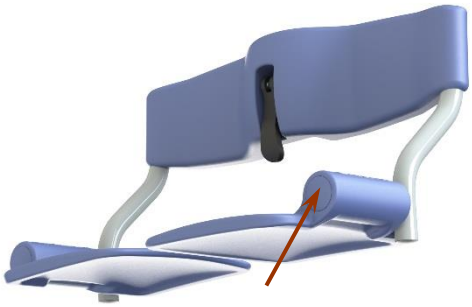


Figure 30 Foot rest

Older footrests: before Serial number 5600.17.192
Serial number 5605.17.052

- Check for any damage.
- Fold up foot plates (should be stiff and stay upright). (They should remain in the folded position, without falling back automatically)
- Are the foot plates evenly fitted and slanting upwards a little towards the middle?
- Is the leg support securely fastened at different heights? Try different heights.
- Is the tightening handle present? (Art. No. 70560009).
- Since August 2009, the tightening handle has been replaced by a new, black, aluminium grip, without a cover.
- Check M5x10 (bottom of plate), and replace stainless-steel screws with ELVZ 8.8 screws. *(See figure 31)*

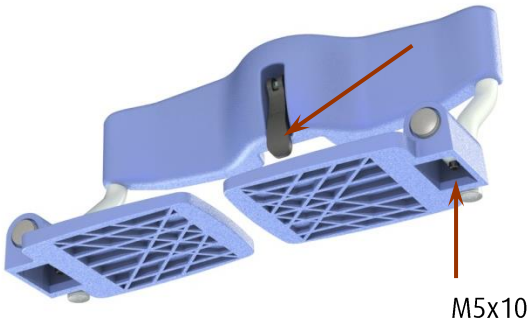
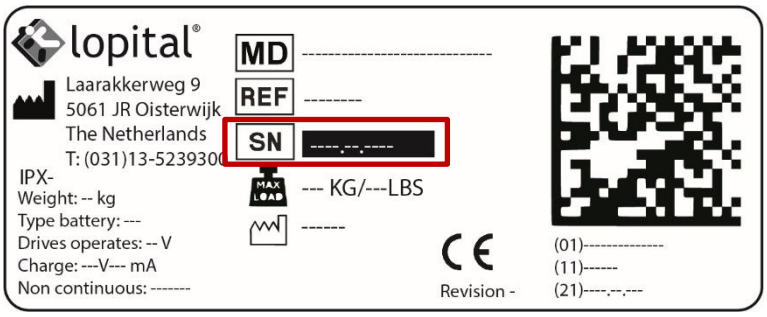


Figure 31 Older Foot rest

For questions about the maintenance protocol, contact Lopital (telephone +31 (0)13 5239300 or mail info@lopital.nl). You will need the serial number (outlined in red) to inform Lopital. See the serial number label on the product for this number.



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If caregivers have a choice, they choose Lopital

For more information, visit our website: www.lopital.com

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