



Periodical preventative  
maintenance

Reflex Shower-toilechair

## Reflex Shower-Toiletchair

51005600 (Standard)

51005605 (With Flexo Leg/foot support)

51005610 (Child model)

51005611 (Child model)

51005612 (Child model)



### **Important!**

The Reflex 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 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 guidelines for medical devices.

Each inspection or repair must be entered to the log.

### **Manufacturer:**

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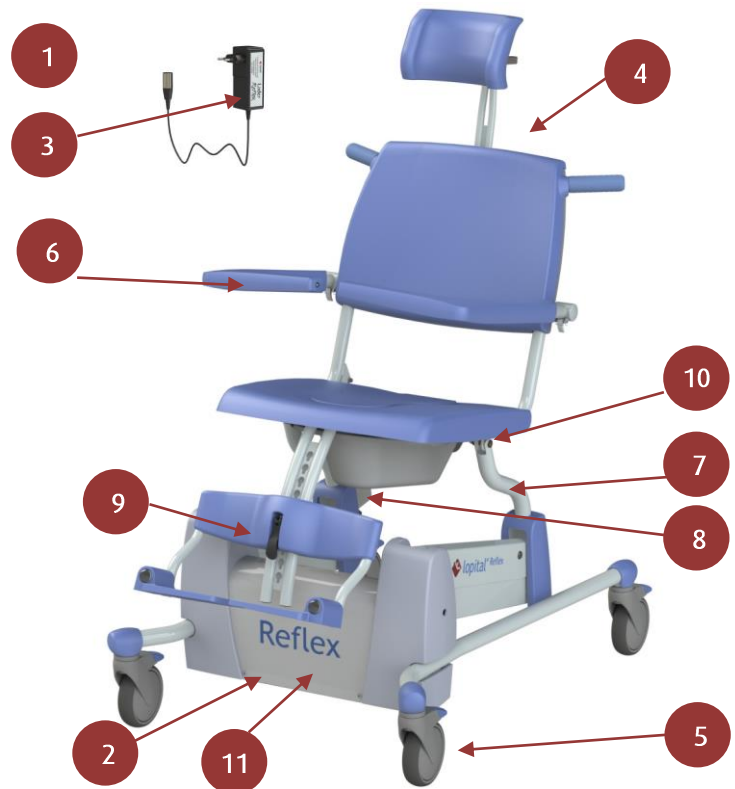
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main lever
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C= Check  
 S= Service/lubricate  
 A= Replacement advised  
 V= Replacement  
 R= Cleaning



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
Front closure	C	V	C	V	C	V	C	V	C	V
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
Leg/foot support	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
Hing point	S	S	V	S	S	V	S	S	V	S
Control	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 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.
- 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?



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

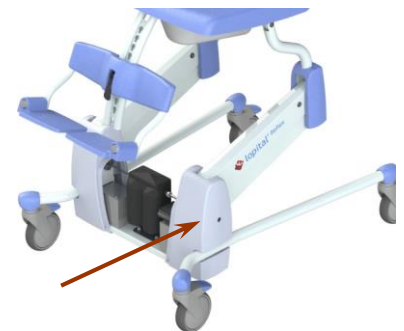


Figure 2 Columns

### 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  $\leq 4,5\text{Ah}$  ( $\leq 65\%$ )
- 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:

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

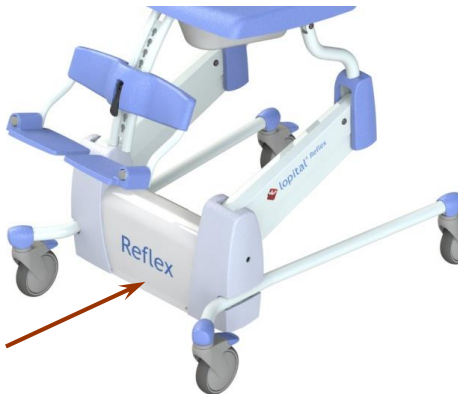


Figure 3 Cap

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



Figure 4 Batteries

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

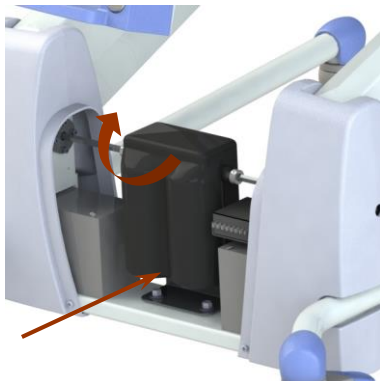


Figure 5 Motor

4. Replace batteries. Write the replacement date on the battery. Tilt the motor back and refasten the M6 bolt.

*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

#### 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 6 Control

2. Remove the plugs of the controller.



Figure 7 Disassemble plugs

3. Disassemble the control.

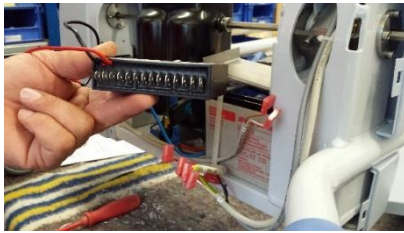


Figure 8 Disassemble the control

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

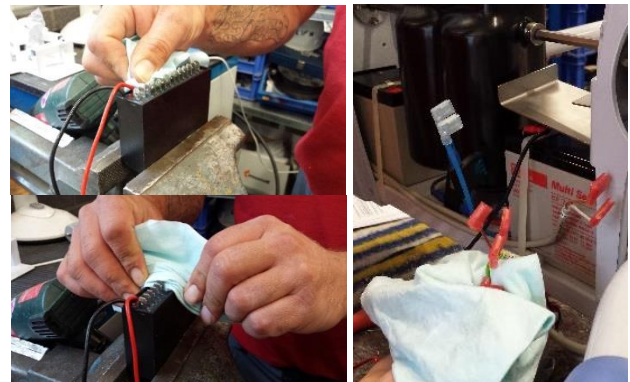


Figure 9 Cleaning control+ casing connectors

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



Figure 10 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.

## 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 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 11 Charger

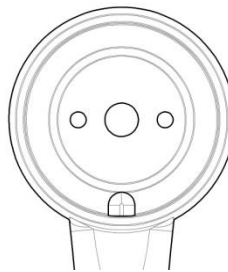


Figure 12 charge plug

### 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 13 Charger

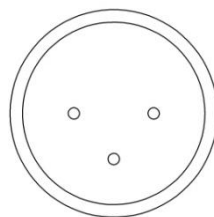


Figure 14 charge plug

## 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 chair support / 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.

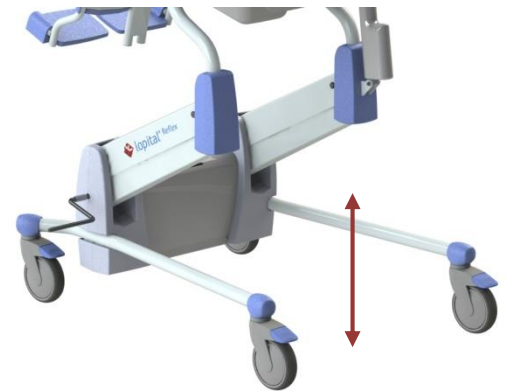


Figure 15



## 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

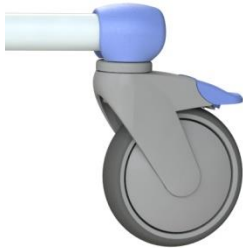


Figure 16 Wheel



Figure 17 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

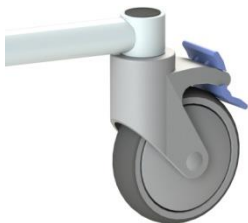


Figure 18 Wheel

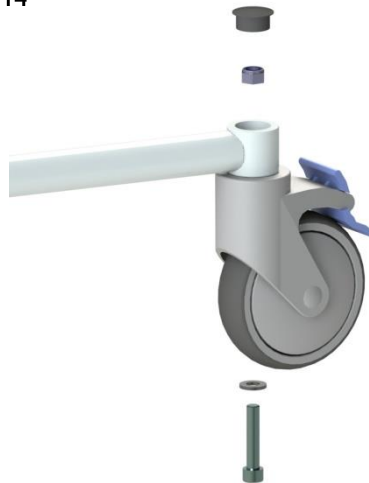


Figure 19 Wheel exploded view

### 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, if 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

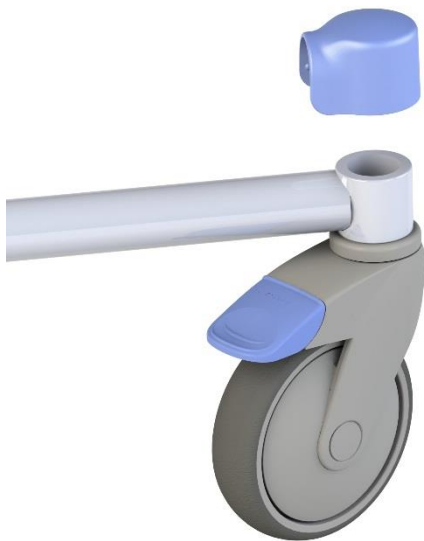


Figure 20 Cover

## 7. Arm rests (front closure)

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

**Required tools**

- Allen key 6mm

- 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 21).
- Always treat corrosion.
- Are the arm supports evenly positioned?
- Slide PUR back if necessary.



- The stainless-steel (A2) bolts should always be replaced by M8x12 DIN912 Zincflake.
- Fastly secure bolts. (See figure 22)

Replace bolts once every 2 years.

Look for an exploded view on [www.lopital.nl](http://www.lopital.nl)

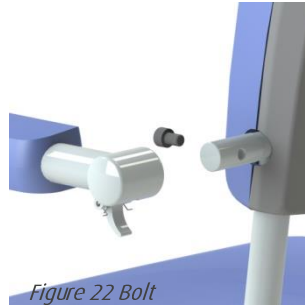


Figure 21 Armrest

## 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

Up to serial number RFL 080501099-CO:

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

Replace M5 bolts once every other year (at the top of chair support). (See figure 23)

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

**Required tools**

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

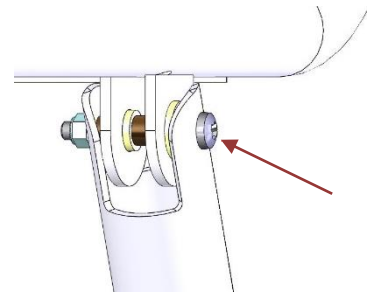


Figure 23 Bolt chair support

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

2. Drill the hole in the chair support to  $\varnothing 11$ .  
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 bolt, washer and lock nut. M6x45 DIN966. Check whether the chair tilts smoothly.

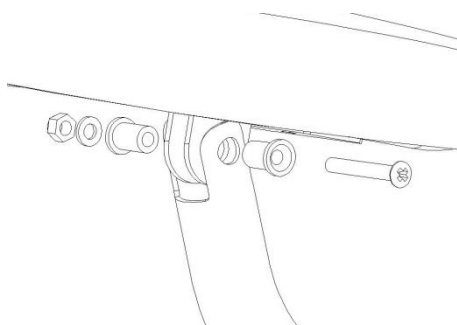


Figure 24 Mounting chair support

From serial number RFL080501099-CO:

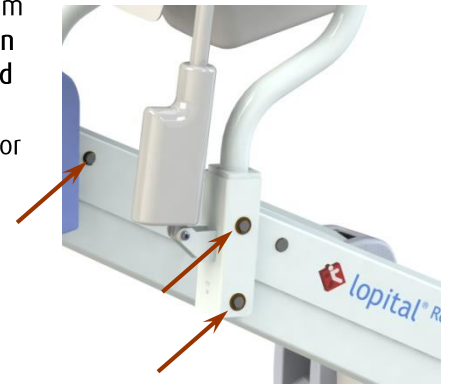
Chairs from serial number RFL080501099 have a chair support fitted with an axle and plastic sleeves.

The way in which the top hinge point in the chair support is serviced 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 25 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.

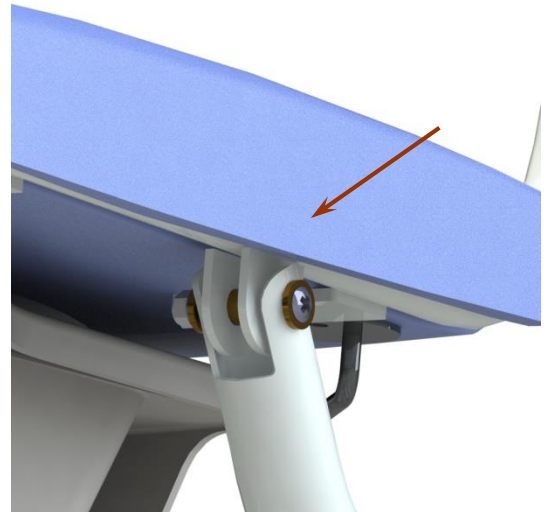


Figure 26 Hinge point

## 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 bolts + nuts.

Room for motion more than 5 mm: replace actuator. Don't test in top position (*See figure 27*)

### Method:



Figure 28 Tilt actuator

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

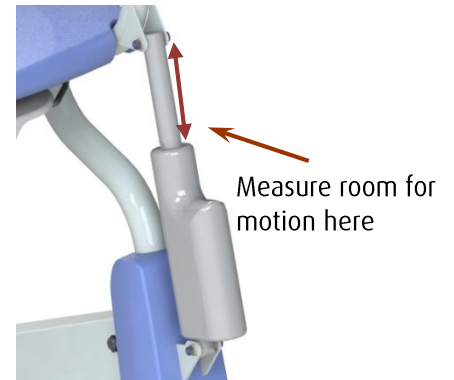


Figure 27 Room for motion

## 10. Leg/foot support

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

- 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 bolts with ELVZ 8.8 bolts. (*See figure 29*)

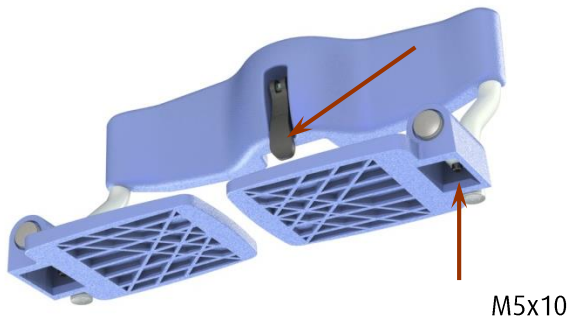


Figure 29 Foot rest



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

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