

INSTALLATION GUIDE
ROVI A3 / X3



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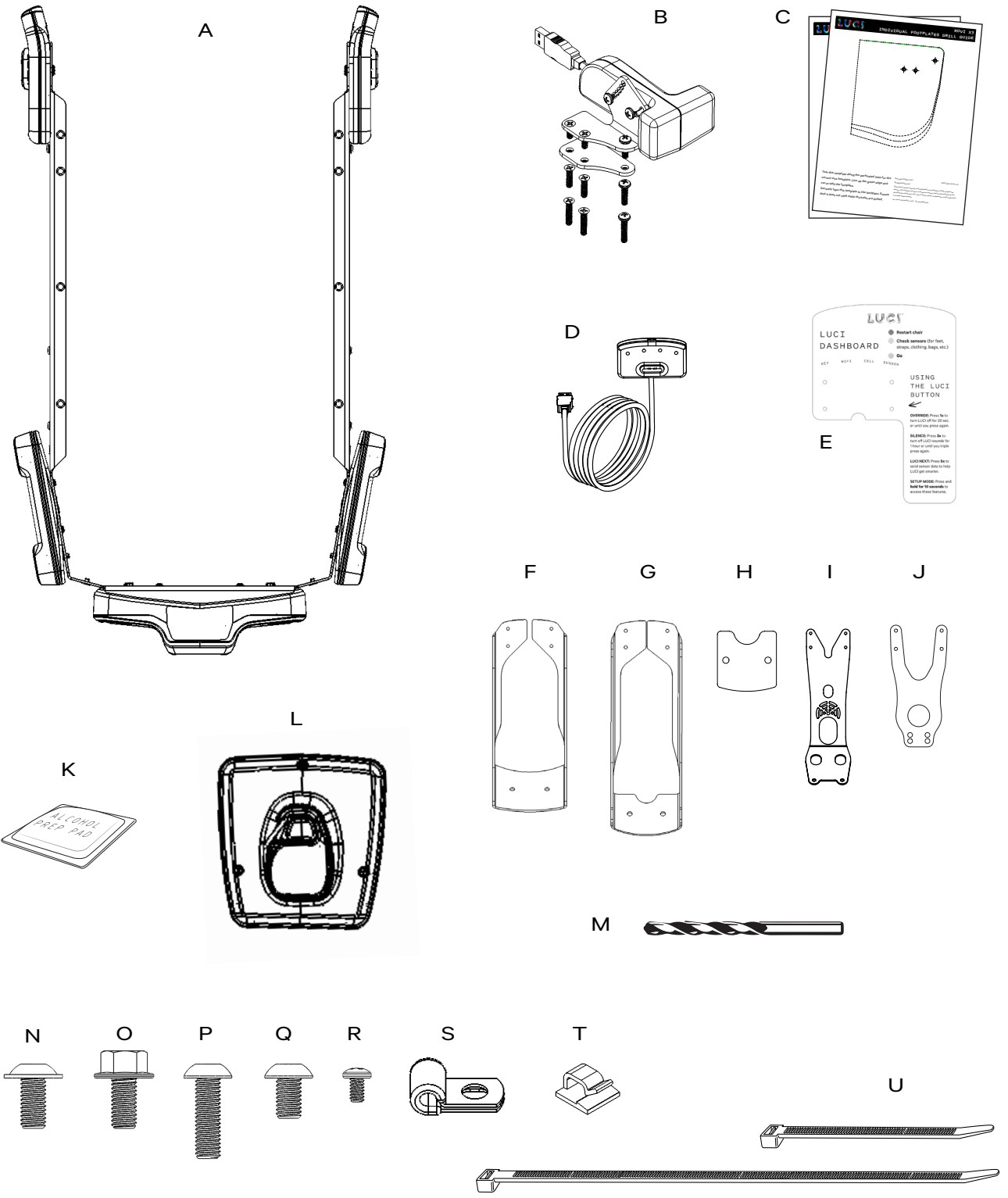
ROVI A3 / X3

PACKAGE CONTENTS

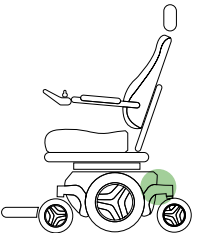
- A. LUCI SmartFrame™ (1)
- B. Scout Kit (1)
- C. Footplate Drill Guide (2)
- D. Dashboard (1)
- E. Dashboard Reference Card (2)
- *Bracket based on order form:
 - F. LED Joystick Dashboard Bracket (1)
 - G. Color Joystick Dashboard Bracket (1)
 - H. Color Joystick Spacer (1)
 - I. CJSM 1/2 Dashboard Bracket (1)
 - J. OMNI Dashboard Bracket (1)
- K. Alcohol Wipe (2)
- L. LuciLink™ Hub & Wheelchair Key™ (1)
- M. 3/16" Drill Bit (1)
- N. M5 x 10mm Flange Screw (6) *(only used on X3)*
- O. M5 x 10mm Hex Head Flange Screw, Yellow Zinc (4) *(only used on A3)*
- P. M5 x 16 Hex Drive Screw (2)
- Q. M5 x 8mm Hex Head Screw (2)
- R. 4-40 x 3/16 Philips Head Screw (4)
- S. 3/16" Cable Clamp (1)
- T. Adhesive Cable Clip
- U. Zip Ties

You will also need:

- 3mm Allen Wrench
- 8mm Socket Wrench - A3 only
- 10mm Socket Wrench
- Phillips P1 Screwdriver
- Flathead Screwdriver
- Masking Tape
- Drill
- Zip Tie Cutter



INSTRUCTIONS



STEP 1 - PREPARE WHEELCHAIR BASE

Tools Required

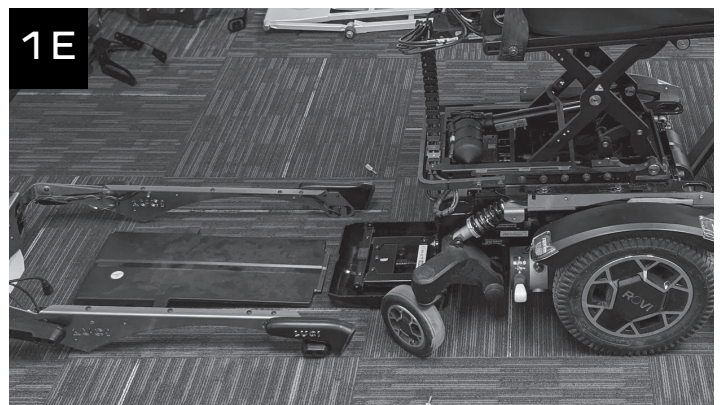
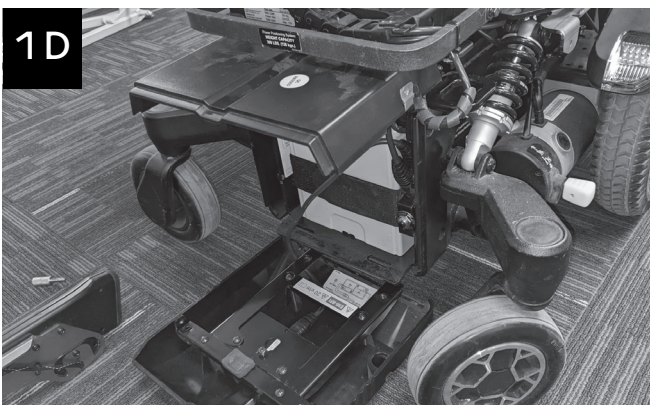
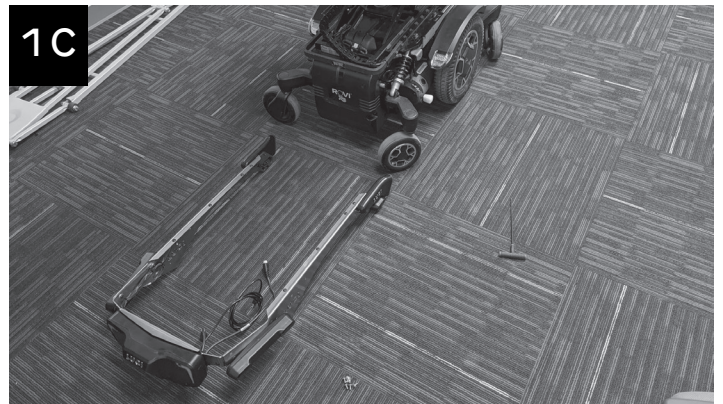
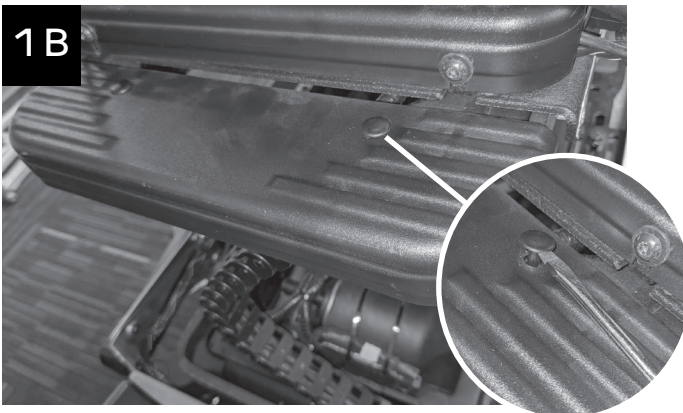
- LUCI SmartFrame™ (A)
- Flathead Screwdriver

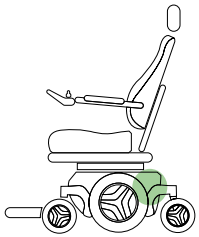
i Note: Ensure that the LUCI Subframes were installed at the factory (Figure 1A).

If the wheelchair is equipped with a seat elevator or standing features, raise it to the highest setting to make installation easier; if the wheelchair is equipped with tilt-only, tilt the seat back to the farthest setting. Turn off the wheelchair. If equipped with a seat elevator, use a flathead screwdriver to pull the plastic rivets out of the rear cover and remove it (Figure 1B). Place the LUCI SmartFrame (A) on the floor behind the chair (Figure 1C). For X3 models only, remove the rear battery cover by removing the two thumb screws on the sides of the base (Figure 1D). Slide the base cover out and set it aside (Figure 1E).



⚠ Caution: Pull the LUCI SmartFrame (A) out of the box carefully to avoid bending the frame.



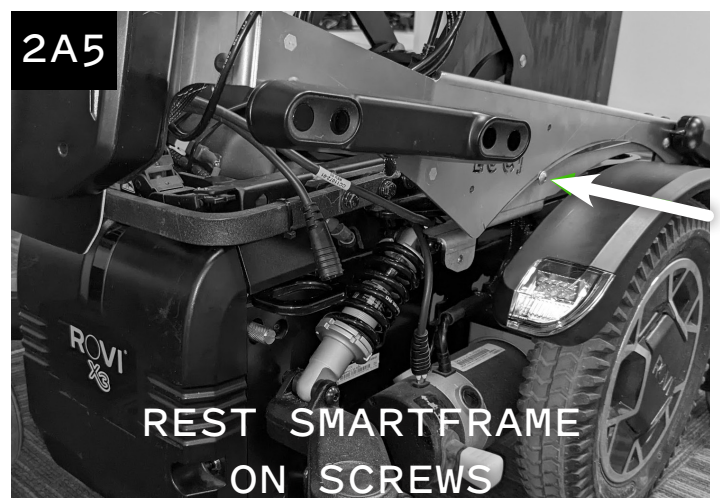
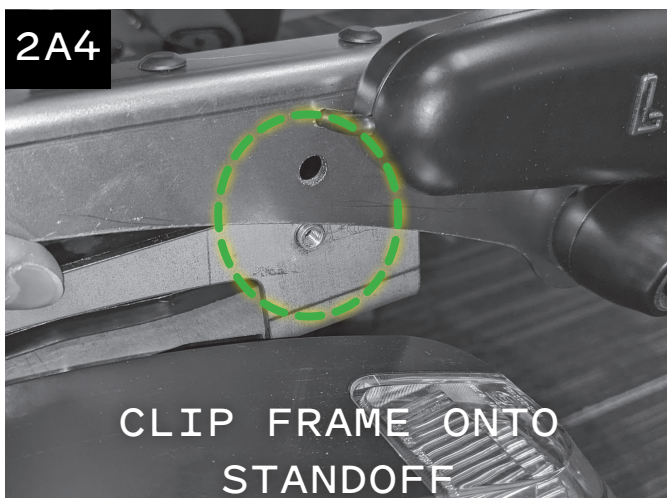
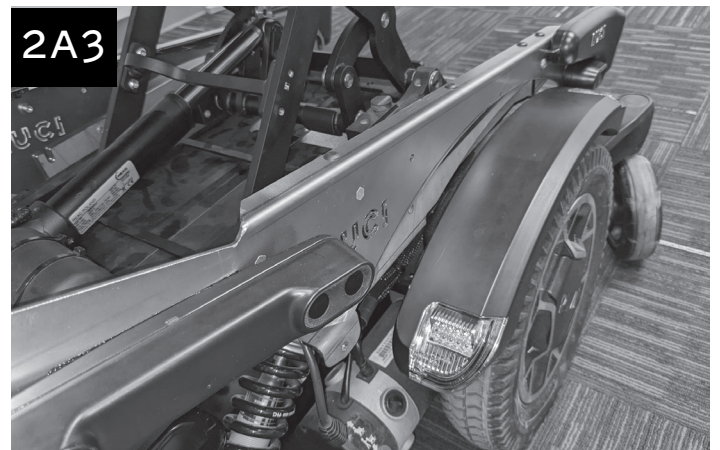
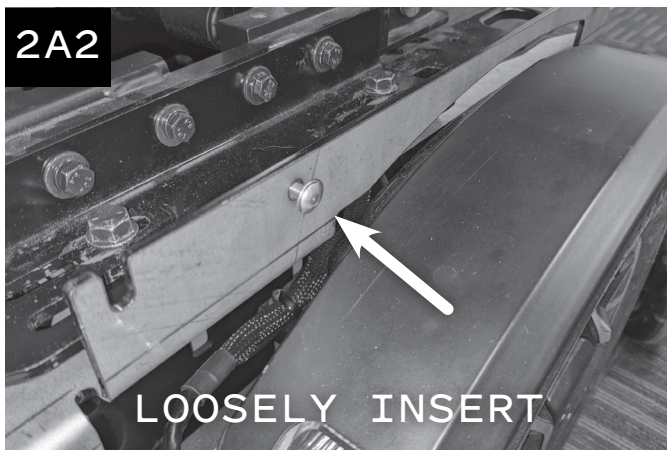
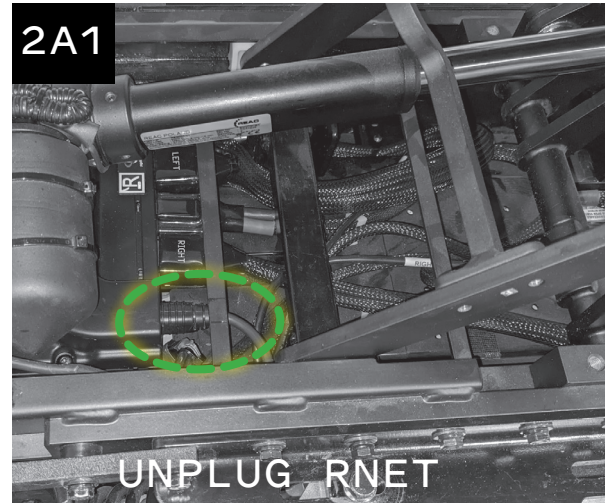


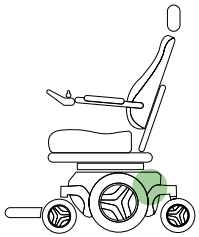
STEP 2A (ROVI X3) - PLACE THE LUCI SMARTFRAME

Tools Required

- LUCI SmartFrame™ (A)
- 3mm Allen Wrench
- M5 × 10mm Screws (N)

For ROVI X3 models only, unplug the male RNET cable from the power module (Figure 2A1). Re-route the cable so that it exits the side of the wheelchair base, gently pulling out about 6" of slack cable. Loosely insert one M5 x 10mm flange screw (N) into the LUCI Subframe on each side of the wheelchair (Figure 2A2). Slide the LUCI SmartFrame (A) onto the wheelchair, lining up the front mounting holes (Figure 2A3). Clip the frame onto the standoff (Figure 2A4) on each side and insert an M5 x 10mm flange screw (N). Tighten with a 3mm Allen wrench. Let the sides of the LUCI SmartFrame (A) rest on the loosely inserted screws to keep it up out of the way while connecting the RNET cables (Figure 2A5).



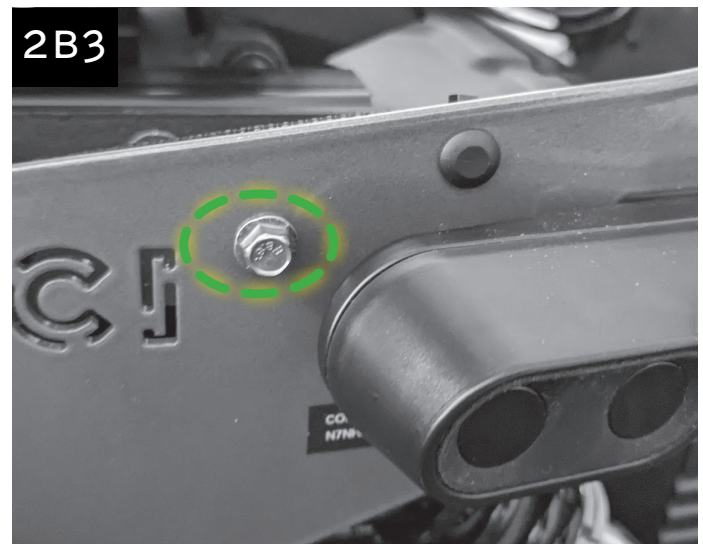
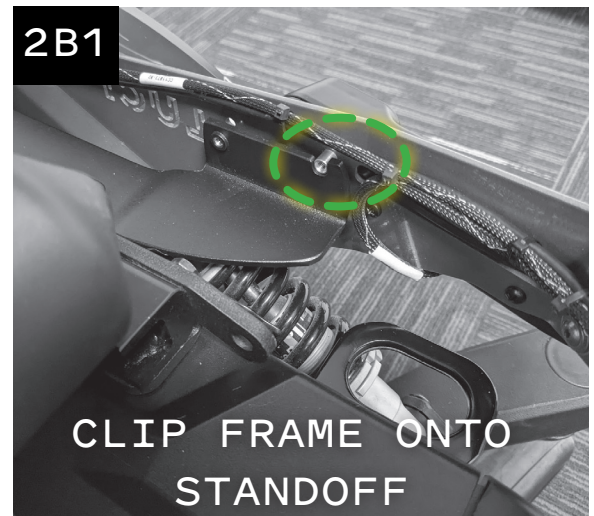


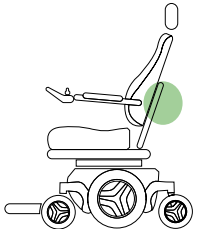
STEP 2B (ROVI A3) - PLACE THE LUCI SMARTFRAME

Tools Required

- LUCI SmartFrame™ (A)
- 8mm Socket Wrench
- M5 × 10mm Screws (O)

For ROVI A3 models only, ensure the RNET cable connection exits on the right side of the wheelchair behind the drive wheel. Keep the connection accessible. Slide the LUCI SmartFrame (A) onto the wheelchair and clip it onto the standoffs in the Subframes (Figure 2B1) on each side. Line up the front mounting holes and insert a yellow zinc M5 x 10mm hex head flange screw (O) into the LUCI Subframe on each side of the wheelchair (Figure 2B2). Line up the rear mounting holes and insert an M5 x 10mm hex head flange screw (O) into the LUCI Subframe on each side of the wheelchair (Figure 2B3). Tighten all four bolts with an 8mm socket wrench.

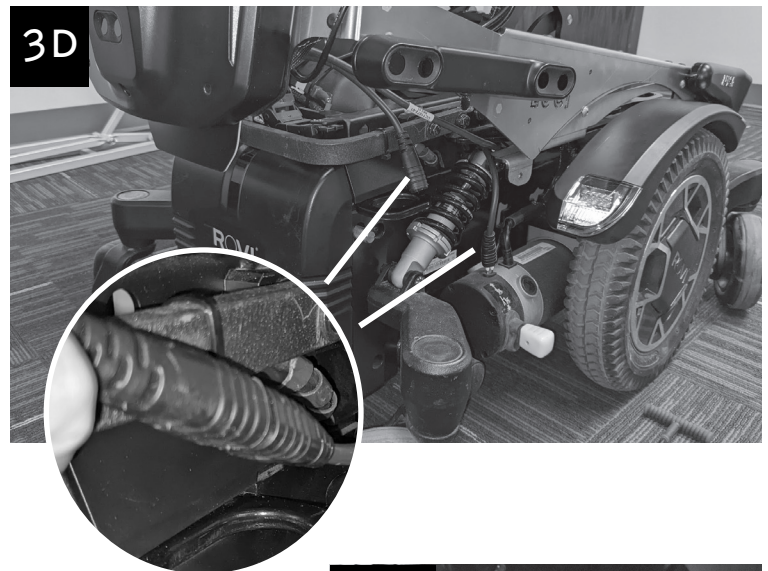
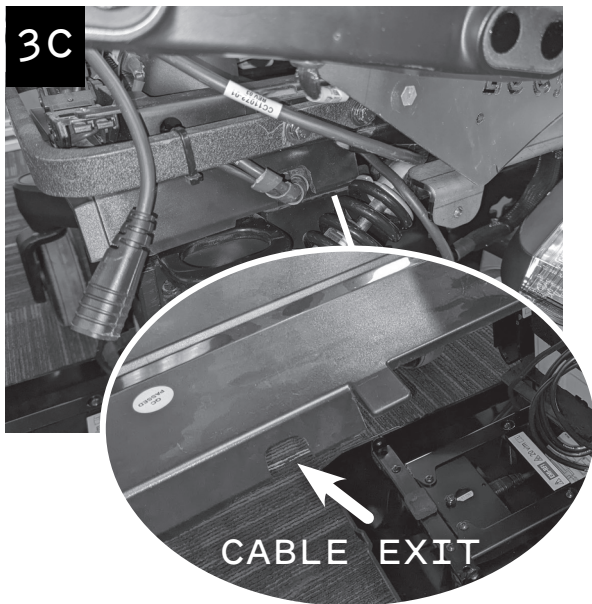
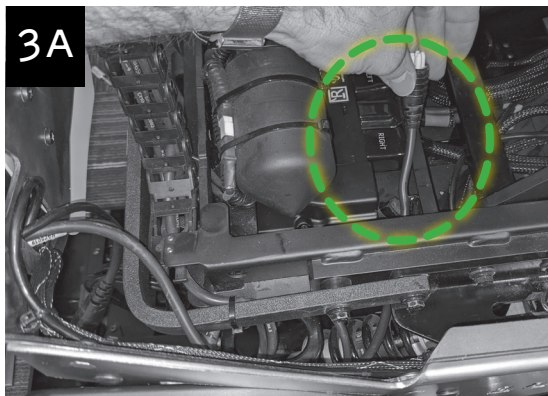




STEP 3 - CONNECT LUCI

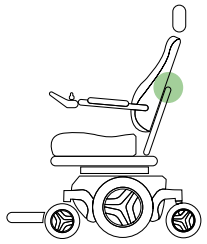
No Tools Required

For ROVI X3 model only, route the male RNET cable from LUCI through the side of the wheelchair (Figure 3A) and plug it into the wheelchair power module. Reinstall the base cover, ensuring that the cover lines up properly at the front of the wheelchair (Figure 3B). All cables should exit through the rearmost notch in the cover (Figure 3C). Reinstall the rear cover using the original thumbscrews (Figure 3D). Plug the male RNET cable from the wheelchair into the female RNET cable on the LUCI SmartFrame.



For ROVI A3 model only, unplug the RNET connection on the right side of the wheelchair. Plug the male RNET cable from the wheelchair into the female RNET cable on the LUCI SmartFrame (A) and the female RNET cable from the wheelchair into the male RNET cable on the LUCI SmartFrame (Figure 3E).



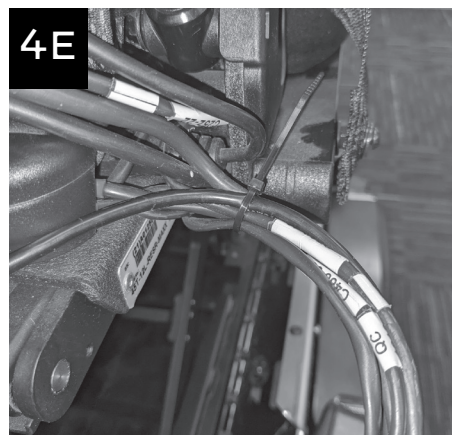
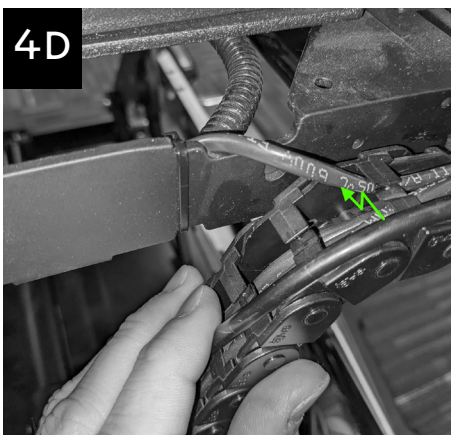
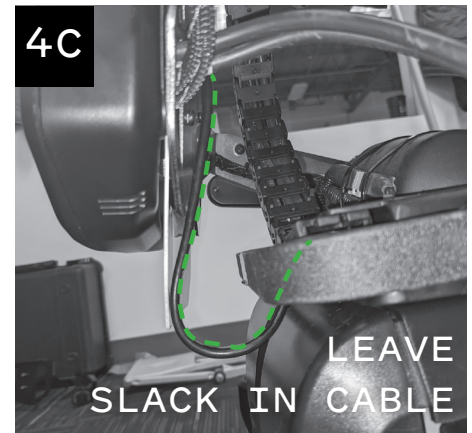
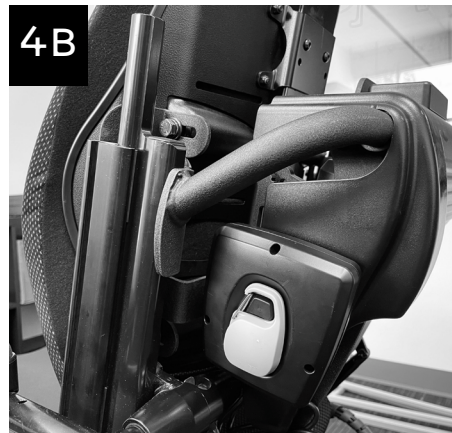


STEP 4 - ATTACH LUCILINK HUB

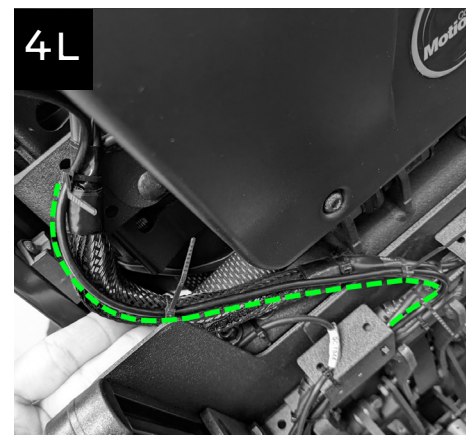
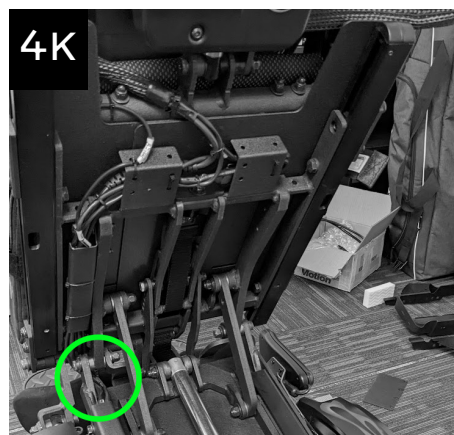
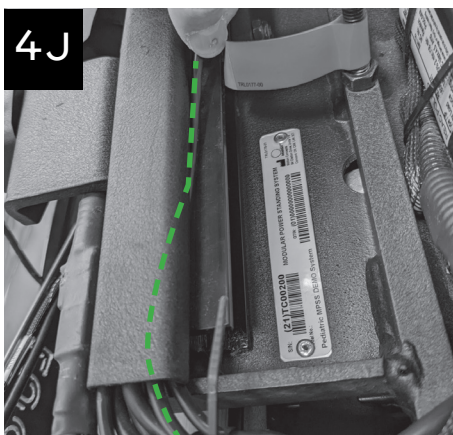
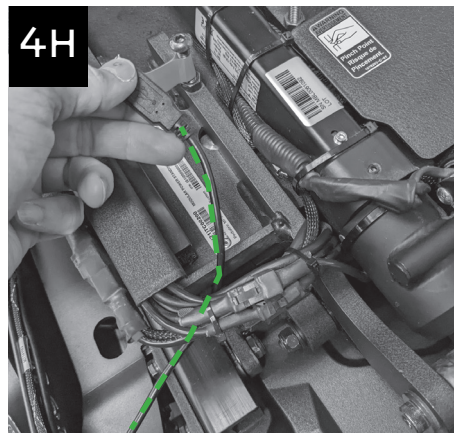
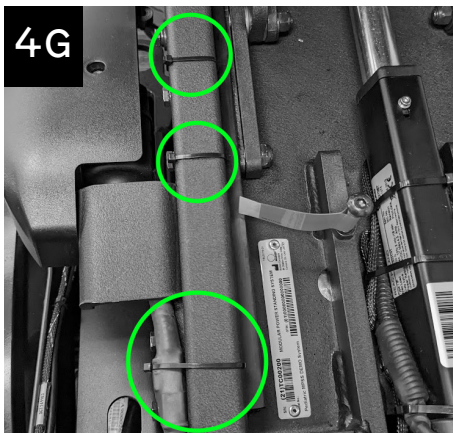
Tools Required

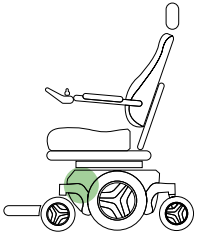
- Alcohol Wipe (K)
- Zip Ties (U)
- LuciLink Hub (L)

For models without a standing feature, remove the wrapping from the cable bundle leading from the base to the backrest of the wheelchair (Figure 4A). Use an alcohol wipe (K) to clean a flat area on the left side of the rear cover on the back of the wheelchair. Remove the Velcro backing from the LuciLink Hub (L) back cover and affix it to the cleaned area, so that the key is oriented as shown and the cable opening is at the bottom (Figure 4B). Route the USB cable from the LUCI SmartFrame toward the drag chain, leaving a few inches of slack at the bottom so that the cable is not pulled when the unit is lifted for battery service (Figure 4C). Continue to route the USB cable along the drag chain toward the LuciLink Hub (L), pressing it down into the drag chain (Figure 4D). At the top of the drag chain where the cables exit, clip the original zip tie, add the USB cable to the bundle, and zip tie (U) the bundle together (Figure 4E). Reinstall the wrapping from the drag chain to the chair base and from the chair base to the back cover (Figure 4F).



For models with a standing feature, remove the three zip ties from the lower cable bundle leading from the base to the front seat pan of the wheelchair (Figure 4G). Use an alcohol wipe (K) to clean a flat area on the left side of the rear cover on the back of the wheelchair. Remove the Velcro backing from the LuciLink Hub (L) back cover and affix it to the cleaned area, so that the key is oriented as shown and the cable opening is at the bottom (Figure 4B). Route the USB cable from the LUCI SmartFrame toward the cable bundle, being sure to route the cable underneath it and up toward the cable guide (Figure 4H). Secure the cable using a zip tie (U) above the bolt head to the mounting arm of the lower actuator leaving a few inches of slack at the bottom so that the cable is not pulled when the unit is lifted for battery service (Figure 4I). Continue to route the USB cable along the cable guide toward the LuciLink Hub (L), pressing it into the cable guide, and zip tie (U) the bundle together as it previously was (Figure 4J). At the top of the lower assembly, where the cables exit, add the USB cable to the bundle following the existing cables from inside to outside (Figure 4K). Continue adding the cable to the upper assembly cable guide and route the cable behind the left side bracket (Figure 4L). Follow existing cables to the backrest and the LuciLink Hub (L).





STEP 5 (ROVI X3) - SECURE THE LUCI SMARTFRAME

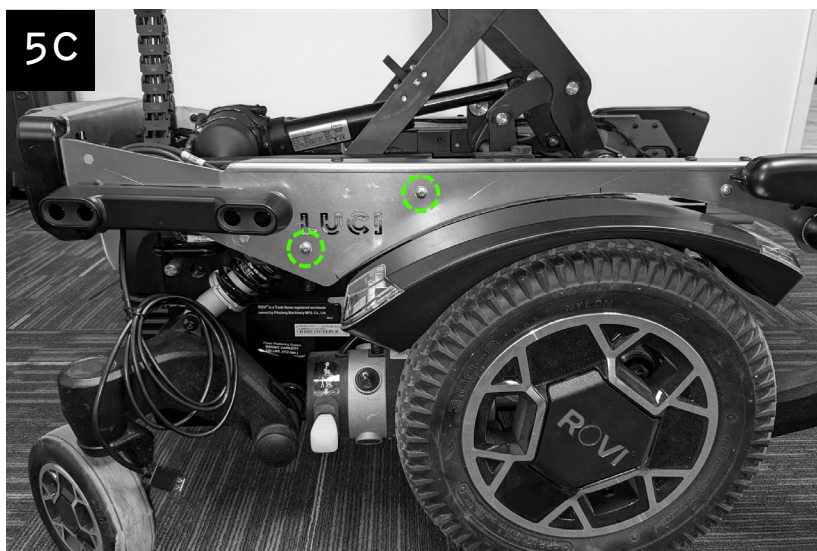
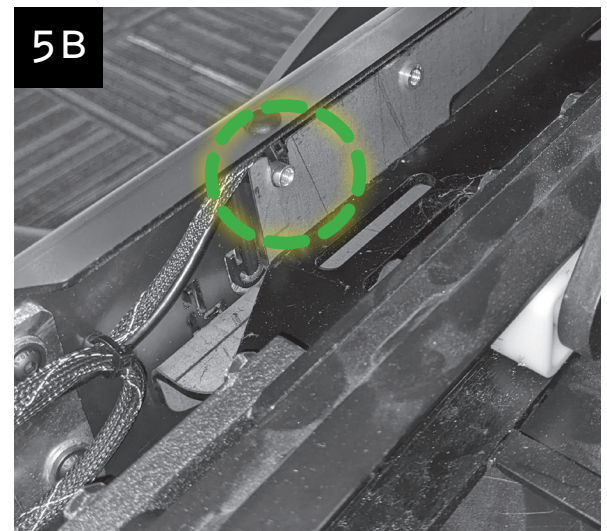
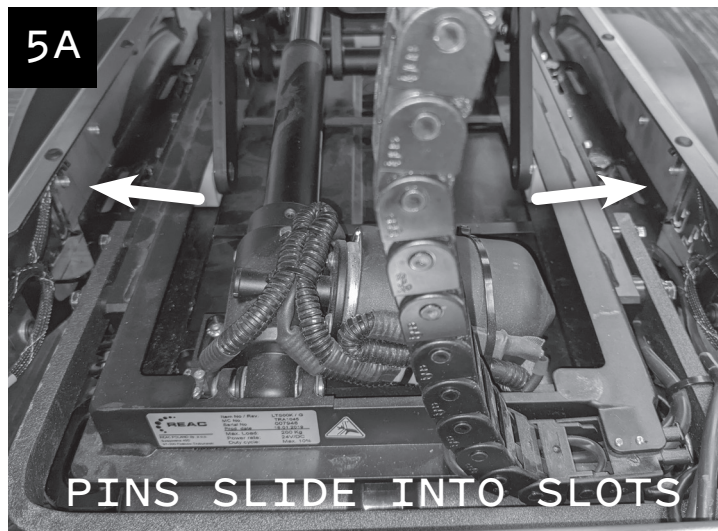
Tools Required

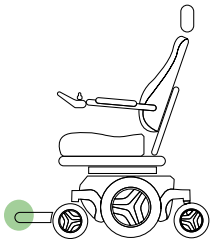
- LUCI SmartFrame™ (A)
- 3mm Allen Wrench
- M5 × 10mm Screws (N)

i Note: **This step is only for ROVI X3 models only.** For ROVI A3 models, skip to the next step.

Gently lift the back end of the LUCI SmartFrame (A) and remove the two screws that it was resting on. Lower the LUCI SmartFrame into place (Figure 5A). The pins on the inside of the LUCI SmartFrame (A) should slide into the slots in the LucI Subframe (Figure 5B). Insert two M5 x 10mm flange screws (N) in each side of the LUCI SmartFrame and tighten with a 3mm Allen wrench (Figure 5C).

i Note: It may be necessary to push down slightly on the LUCI SmartFrame to seat the pins in the slots.



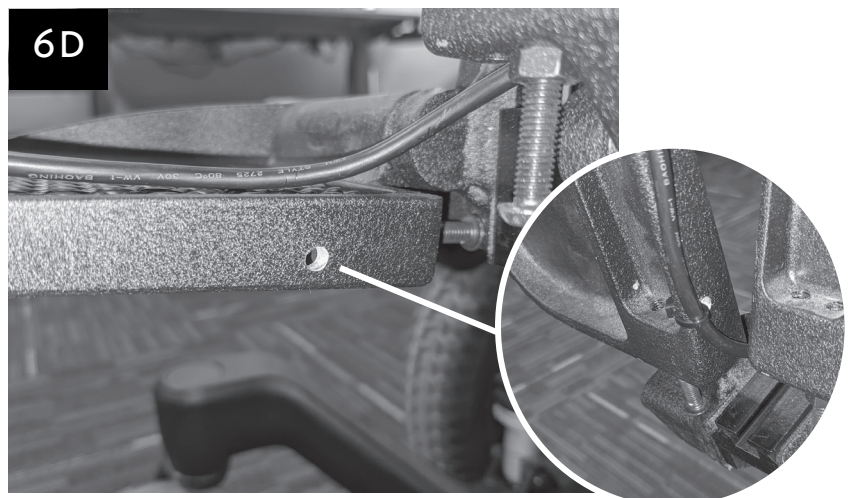
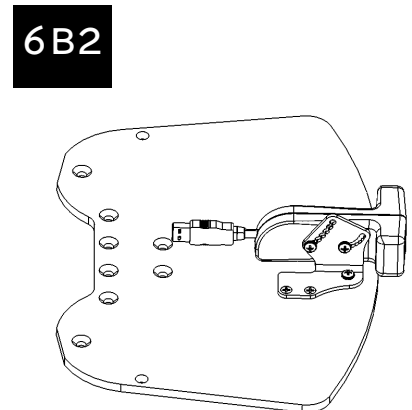
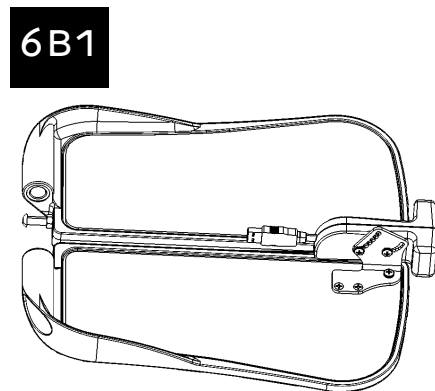
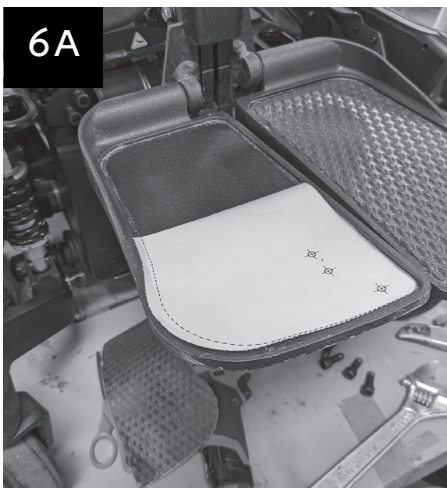


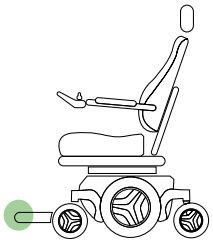
STEP 6 - ATTACH SCOUT

Tools Required

- Scout Kit (B)
- Footplate Drill Guide (C)
- 3/16" Drill Bit (M)
- Drill
- Tape
- Phillips P1 Screwdriver
- Zip Tie (U)

Peel back the rubber on the footplate. Tear out the Footplate Drill Guide (C) along the perforated lines that match the wheelchair's footplate. Line it up as indicated on the template (left edge of the right footplate for individual footplates or along the right edge and center curve for single footplate) and tape it in place (Figure 6A). Drill the three holes with the 3/16" Drill Bit (M). Replace the rubber and drill holes through it from the bottom of the footplate. Set the Scout on top of the footplate. Choose screws of the appropriate length from the Scout Kit (B). Insert the panhead screw in the front hole and two flathead screws into the rear holes (Figure 6B1 or 6B2). Hold the lower Scout bracket against the bottom of the footplate (Figure 6C) and tighten all three screws. For individual footplates, drill a hole on the inside edge of the right footplate (Figure 6D) and zip tie (U) the Scout cable to the footplate.





STEP 7 - ROUTE SCOUT CABLE

Tools Required

- 3/16" Cable Clamp (S)
- Alcohol Wipe (K)
- Adhesive Cable Clip (T)
- Zip Ties (U)
- 10mm Socket Wrench
- Flathead Screwdriver
- Zip Tie Cutter

Regardless of the type of footplate, the Scout cable will be routed toward the back of the wheelchair. Begin by routing the cable toward the left side of the footplate center mount post (Figure 7A). Fully extend the leg rest to prepare for cable routing (Figure 7B). Just below the calf pad, insert the Scout cable into the 3/16" Cable Clamp (S) exactly as shown to ensure proper orientation (Figure 7C). Using a 10mm socket wrench, remove the upper footplate mounting bolt on the center column. Insert the cable clamp and reinstall the bolt (Figure 7D). Zip tie (U) the Scout cable to the leg rest bracket (Figure 7E). Clean the side of the leg actuator with an alcohol wipe (K) and attach an adhesive cable clip (T). Route the Scout cable through the cable clip (Figure 7E).

i Note: Use an alcohol wipe (K) to thoroughly clean the plastic before applying the adhesive cable clip. The cable clip needs firm pressure to properly adhere, and may come off in the first few minutes if moved too aggressively when putting the cable into it.

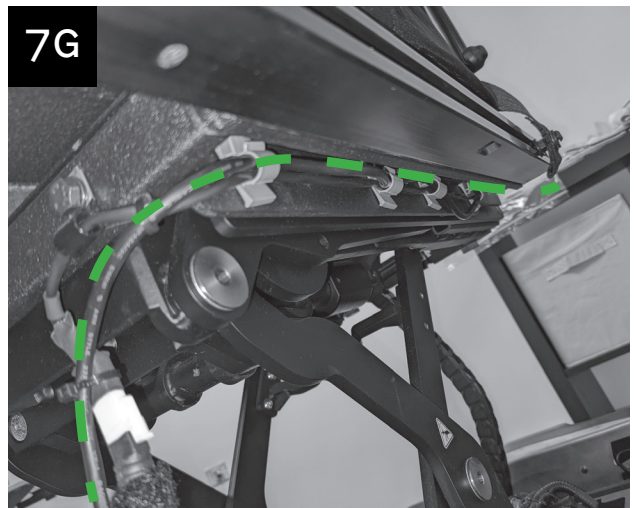
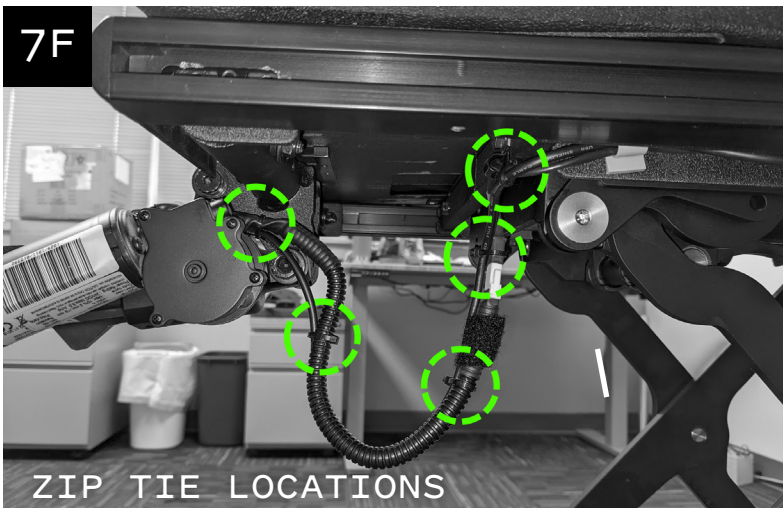
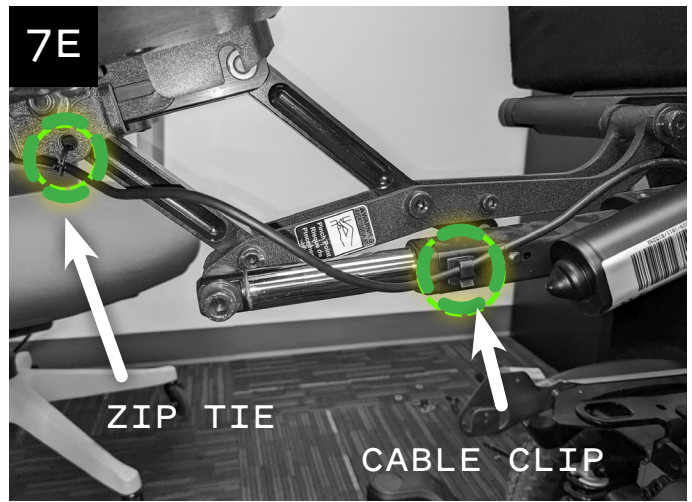
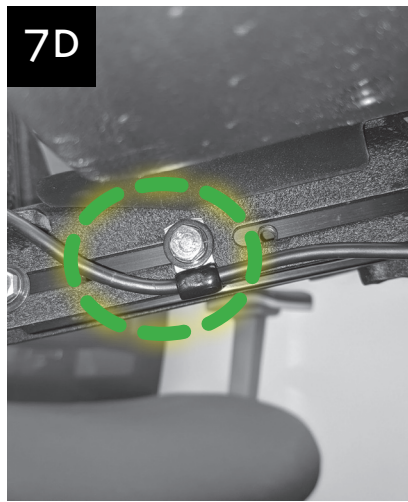
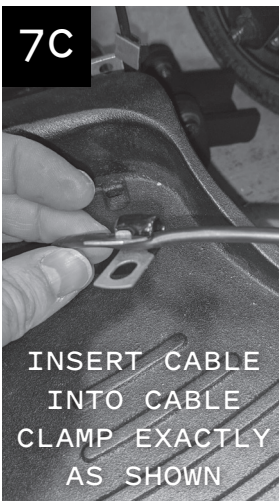
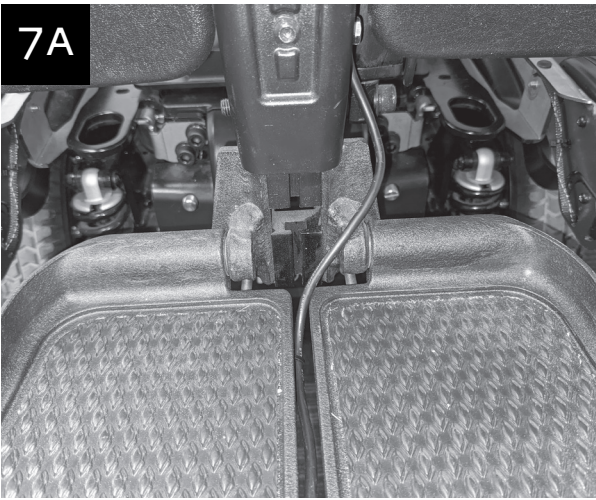
▲ Caution: Ensure there is enough slack in the USB cable so that the seat and leg rest can move to their full extent, without causing tension on the cable. Approximately 1/2" of slack in each direction is ideal.

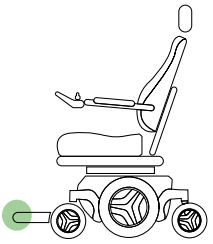
For models without a standing feature, zip tie (U) the Scout cable along the actuator wiring (Figure 7F). Use a zip tie cutter to trim the zip tie tails. Tilt the seating assembly all the way back and open the existing cable clips with a flathead screwdriver. Insert the Scout cable into the cable clips, routing it along existing cabling toward the back of the wheelchair (Figure 7G). Close each cable clip by pushing on the outer ridge until it clicks.

For models with a standing feature, add the Scout cable to the upper assembly cable guide and zip tie (U) the cable along with the hub USB cable to the LuciLink Hub (L) as shown in Step 4.

▲ Caution: All cables should be installed, bundled and routed so as to avoid damage to the cables through pinching, dragging, etc. and to avoid excess cable length that could lead to entanglement or strangulation.

i Note: If the driver typically drives with the footplate raised, the Scout should be adjusted, following the instructions in Step 7B.





STEP 7B - ADJUSTABLE SCOUT OPTIONS

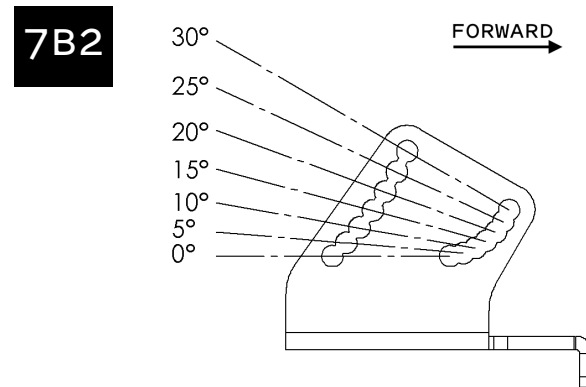
Tools Required

- Phillips P1 Screwdriver

The Scout works best when it is level with the ground or facing slightly upward. For the majority of drivers the default Scout position will work well and this step can be skipped (Figure 7B1). However, if the driver primarily drives with the footplate significantly raised or lowered, the Scout should be adjusted to an orientation that is level with the ground, to ensure proper functioning and obstacle detection.

The adjustable footplate bracket allows for variability in Scout orientation (Figure 7B2). If the driver typically drives with the footplate up, the Scout can be mounted at up to 30 degrees tilt (Figure 7B3).

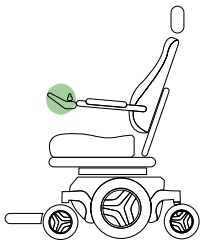
⚠ Caution: Do not mount the Scout facing downward, as this will cause it to see the ground as an obstacle and inhibit forward motion (Figure 7B4). Note that the Scout should be checked with the user seated, because the footplates may tilt downward with weight applied.



STEP 8 - INSTALL THE DASHBOARD

i Note: To install the Dashboard, you will need to select the correct Dashboard Bracket depending on the wheelchair's drive system. M5 x 16mm hex screws (O) are provided for some joystick mounts:

- | | | |
|--------------------------|--|-----------|
| - LED Joystick | - LED Joystick Dashboard Bracket (F) | - Step 8A |
| - Color Joystick | - Color Joystick Dashboard Bracket (G) | - Step 8B |
| - Standard Joystick | - CJSM 1/2 Dashboard Bracket (I) | - Step 8C |
| - Omni Alternative Drive | - Omni Dashboard Bracket (J) | - Step 8D |

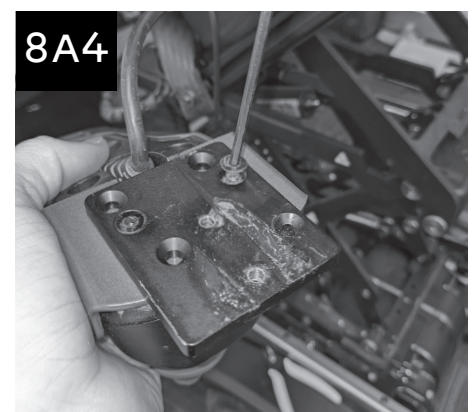
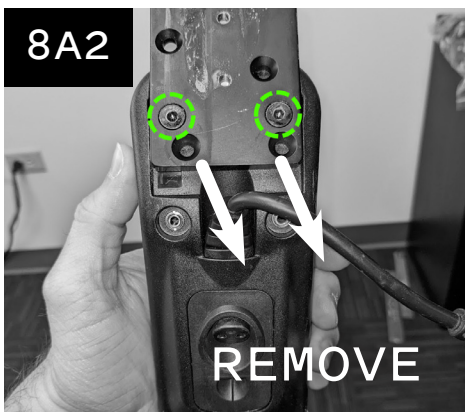
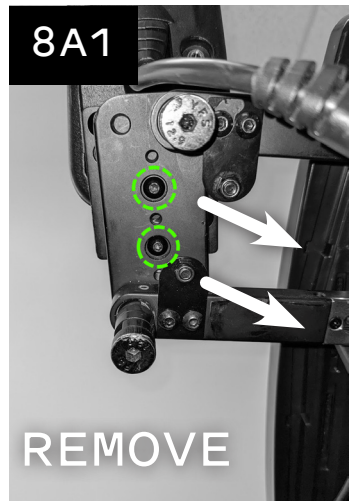


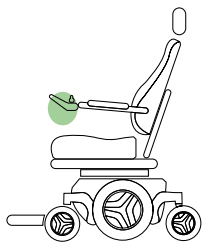
STEP 8A - LED JOYSTICK

Tools Required

- | | |
|--------------------------------------|-----------------------------------|
| - Dashboard (D) | - Phillips P1 Screwdriver |
| - Dashboard Reference Card (E) | - 3mm Allen Wrench |
| - LED Joystick Dashboard Bracket (F) | - 4-40 x 3/16 Phillips Screws (R) |

Rotate the swing-away mount of the joystick outward to expose the mounting screws. Using a 3mm Allen wrench, remove the two mounting screws and set them aside (Figure 8A1). Remove the joystick from the mounting bracket (Figure 8A2). Choose the correct (left or right) Dashboard Reference Card (E). Use four 4-40 x 3/16 inch screws (R) to attach the LED Joystick Dashboard Bracket (F) to the back of the Dashboard (D), with the Dashboard Reference Card (E) behind the bracket (Figure 8A3). Route the Dashboard cable along the lower inside bend of bracket and place the joystick module inside the Bracket. Reattach the entire joystick module to the original mounting bracket (Figure 8A4) and reattach to the wheelchair arm. Insert and tighten the original screws.



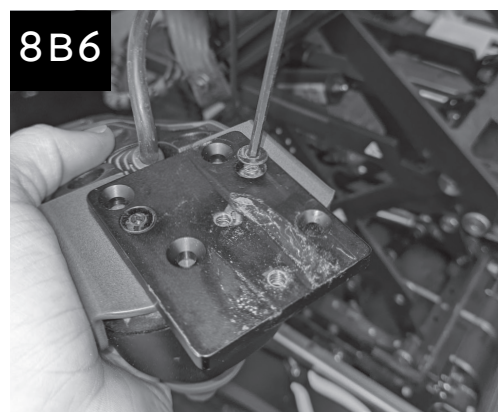
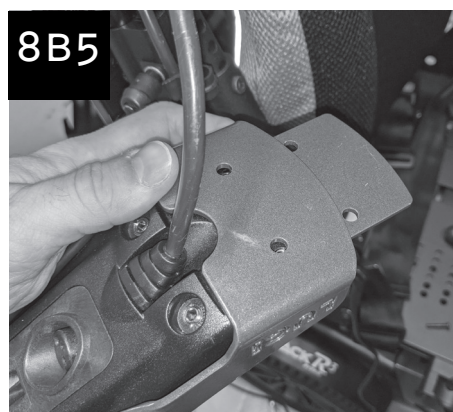
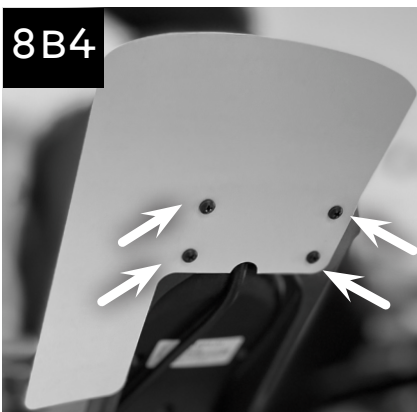
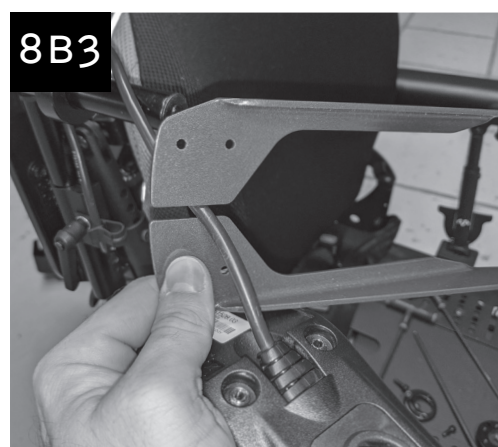
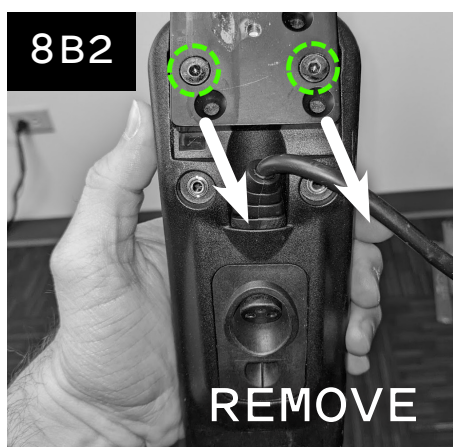
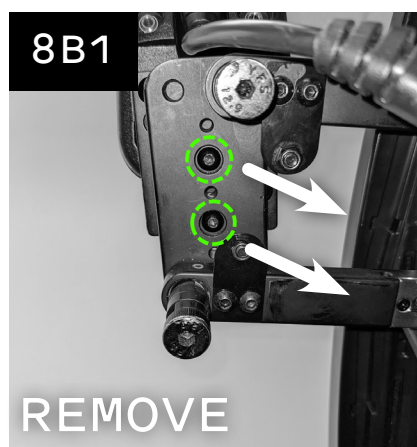


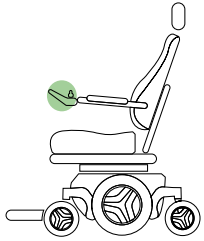
STEP 8B - COLOR JOYSTICK

Tools Required

- | | |
|--|-----------------------------------|
| - Dashboard (D) | - Color Joystick Spacer (H) |
| - Dashboard Reference Card (E) | - 3mm Allen Wrench |
| - Color Joystick Dashboard Bracket (G) | - Phillips P1 Screwdriver |
| | - 4-40 x 3/16 Phillips Screws (R) |

Rotate the swing-away mount of the joystick outward to expose the mounting screws. Using a 3mm Allen wrench, remove the two mounting screws and set them aside (Figure 8B1). Remove the joystick from the mounting bracket (Figure 8B2). Feed the joystick cable through the split in the Color Joystick Bracket (G) (Figure 8B3). Choose the correct (left or right) Dashboard Reference Card (E). Use four 4-40 x 3/16 inch screws (R) to attach the Color Joystick Dashboard Bracket (G) to the back of the Dashboard (D), with the Dashboard Reference Card (E) behind the bracket (Figure 8B4). Route the Dashboard cable along the lower inside bend of bracket and place the joystick module inside the Bracket. Turn the joystick module upside down, and slide the Color Joystick Spacer (H) in between the joystick module and the bracket (Figure 8B5). Reattach the entire joystick module to the original mounting bracket (Figure 8B6) and reattach to the wheelchair arm. Insert and tighten the original screws.



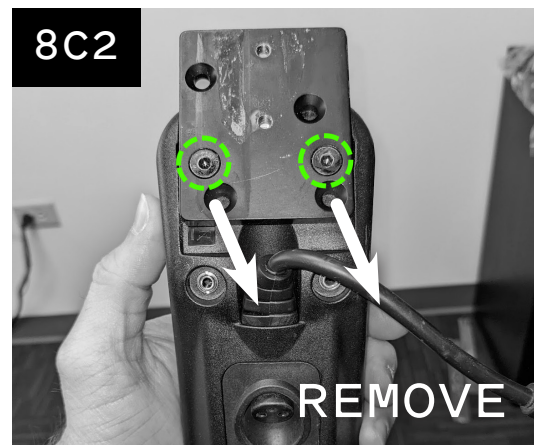
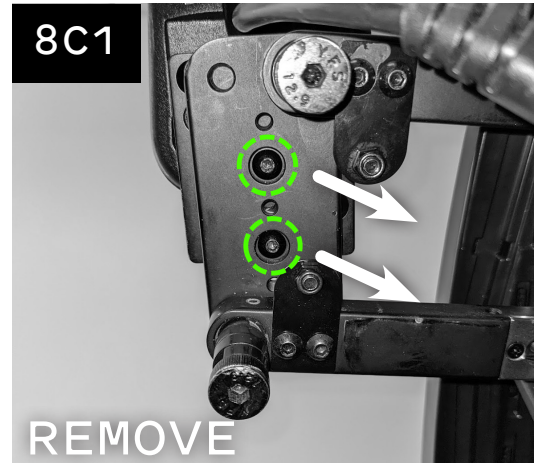


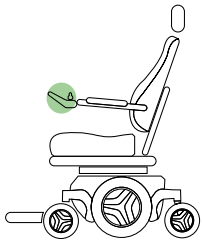
STEP 8C - CJSM 1/2 JOYSTICK

Tools Required

- Dashboard (D)
- Dashboard Reference Card (E)
- CJSM 1/2 Joystick Dashboard Bracket (I)
- 3mm Allen Wrench
- Phillips P1 Screwdriver
- 4-40 x 3/16 Phillips Screws (R)
- Zip Tie (U)

Rotate the swing-away mount of the joystick outward to expose the mounting screws. Using a 3mm Allen wrench, remove the two mounting screws and set them aside (Figure 8C1). Remove the joystick from the mounting bracket (Figure 8C2). Choose the correct (left or right) Dashboard Reference Card (E). Use four 4-40 x 3/16 inch screws (R) to attach the CJSM 1/2 Joystick Dashboard Bracket (I) to the back of the Dashboard (D), sandwiching the Dashboard Reference Card (E) between them and ensuring the cable is routed correctly (Figure 8C3 or 8C4). Note that for newer wheelchairs, the joystick module is taller, so the Dashboard (D) should only be attached to the top two holes on the bracket; insert screws into the top two holes on the Dashboard (D) to ensure the unit stays sealed (Figure 8C4). Insert the Dashboard bracket between the armrest and the joystick module and reinsert the screws (Figure 8C5). Route and zip tie (U) the cable as shown (Figure 8C5). Reattach the joystick module and tighten the original screws.



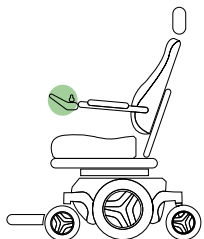


STEP 8D - OMNI ALTERNATIVE DRIVE

Tools Required

- Dashboard (D)
- Dashboard Reference Card (E)
- Omni Dashboard Bracket (J)
- 3mm Allen Wrench
- Phillips P1 Screwdriver
- M5 × 8mm Hex Screw (O)
- 4-40 × 3/16 Phillips Screws (R)

Choose the correct (left or right) Dashboard Reference Card (E). Use four 4-40 x 3/16 inch screws (R) to attach the bracket to the back of the Dashboard (D), sandwiching the Dashboard Reference Card (E) between them and ensuring the cable is routed correctly (Figure 8D1). Use a 3mm Allen wrench to remove the Omni module. Insert the Dashboard bracket (J) between the armrest and the Omni module and attach using two M5 x 8mm hex head screws (O) (Figure 8D2).



STEP 9 - ROUTE THE DASHBOARD CABLE

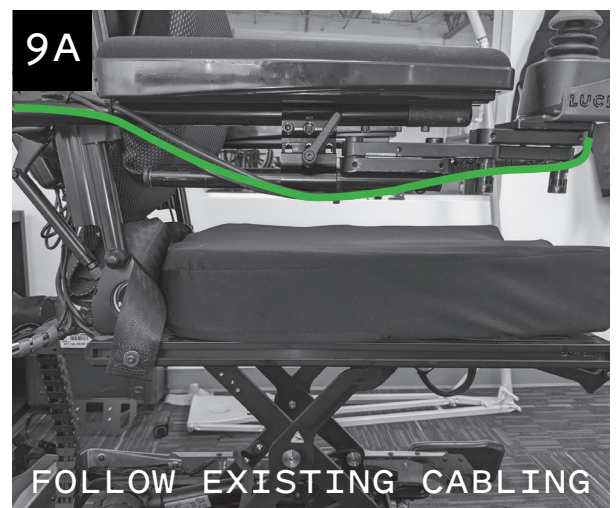
Tools Required

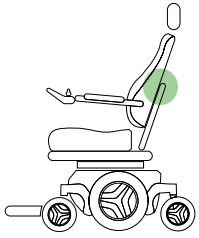
- Zip Ties (U)

Route the Dashboard cable toward the back of the wheelchair, following existing cabling and using zip ties (U) as needed (Figure 9A).

i Note: For alternative drive wheelchairs, the Dashboard (D) includes an auxiliary jack. Any momentary switch plugged into the jack can be used as the override button. If not used, be sure to keep the dust plug in the jack.

▲ Caution: All cables should be installed, bundled and routed so as to avoid damage to the cables through pinching, dragging, etc. and to avoid excess cable length that could lead to entanglement or strangulation.





STEP 10 - ROUTE AND SECURE CABLES

Tools Required

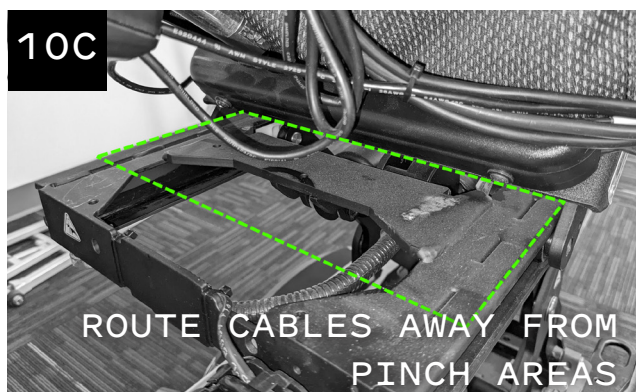
- Zip Ties (U)
- Zip Tie Cutter
- Phillips P1 Screwdriver

Use a Phillips P1 screwdriver to open the LuciLink Hub (L) (Figure 10A). Plug the Scout and Dashboard USB cables into the LuciLink Hub and connect the SmartFrame USB cable to the LuciLink Hub. Place the cables so that the LuciLink Hub can be closed (Figure 10B). Close the LuciLink Hub, reinsert and tighten the three screws. Ensure all cables are properly routed and zip tie (U) as necessary. Trim zip tie tails.

i Note: It may be easier to place the cables and close the LuciLink Hub by removing it from the back of the seat and holding the LuciLink Hub horizontally.

⚠ Caution: Avoid routing cables through the seat pan pinch area (Figure 10C). All cables should be installed, bundled and routed so as to avoid damage to the cables through pinching, dragging, etc. and to avoid excess cable length that could lead to entanglement or strangulation.

Reinstall the rear cover by lining up the holes and pushing the plastic rivets into place (Figure 10D).

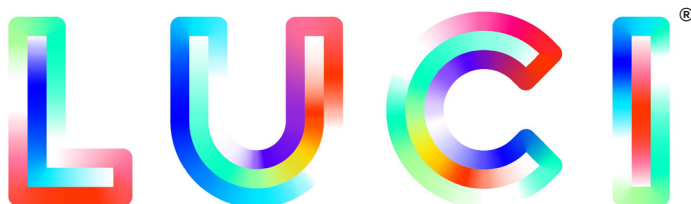


ONCE LUCI IS INSTALLED:

- Power on the wheelchair and ensure that the seat, armrests, and legrest are able to move to their full extent without pinching or pulling any cables, or compressing any parts of LUCI.
- Ensure that leg pads and accessories, such as lateral thigh supports, do not contact or block the front camera pods at the lowest seat elevation.
- Confirm the Dashboard Reference Card is attached to the LUCI Dashboard.
- Check that there are no loose, pinched or dragging cables.
- Confirm the Sensor Status light on the Dashboard is orange (demo mode).
- Press the LUCI button and make sure the LUCI button lights up blue, the chair can move in each direction when clear, and the chair stops in a blocked direction of travel.

Before releasing the wheelchair to the user, the system will need to be configured. With the user in the wheelchair, follow the instructions in the LUCI Quick Setup Guide.

CONGRATULATIONS,
you have installed



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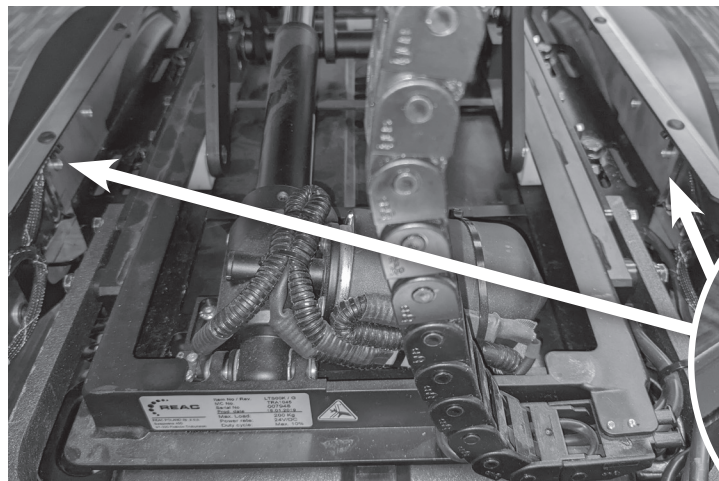
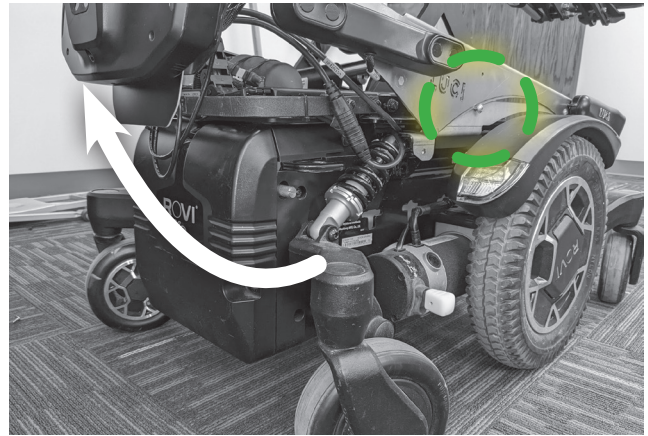
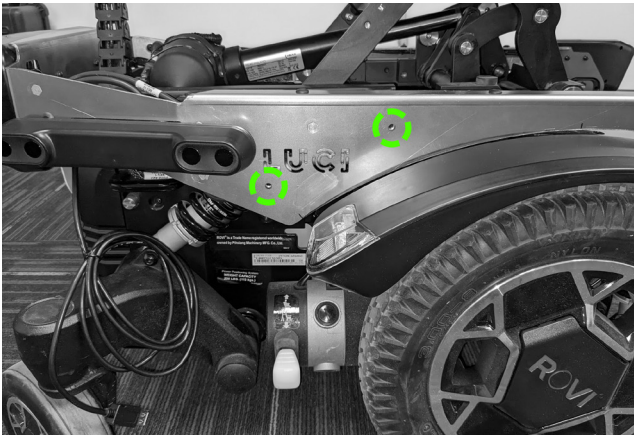
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REPLACING WHEELCHAIR BATTERIES WITH LUCI INSTALLED

If you need to replace the batteries on a ROVI A3 / X3 that has LUCI installed, follow these steps:

1. Elevate or tilt the wheelchair seat if possible. Remove the rearmost screws securing the LUCI SmartFrame.
2. Lift the rear of the LUCI SmartFrame and loosely insert one screw on each side into the sub-frame. Rest the LUCI SmartFrame on the two screws.
3. Swap the batteries as you normally would. It may be necessary to move the excess USB cables out of the way while performing the battery swap.
4. When the service is complete, remove the two loose screws and lower the LUCI SmartFrame back into place, ensuring that the pins slide into the slots on the subframe. Reinsert and tighten the screws on each side. Ensure all cables remain neatly routed to avoid pinching or dragging.



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