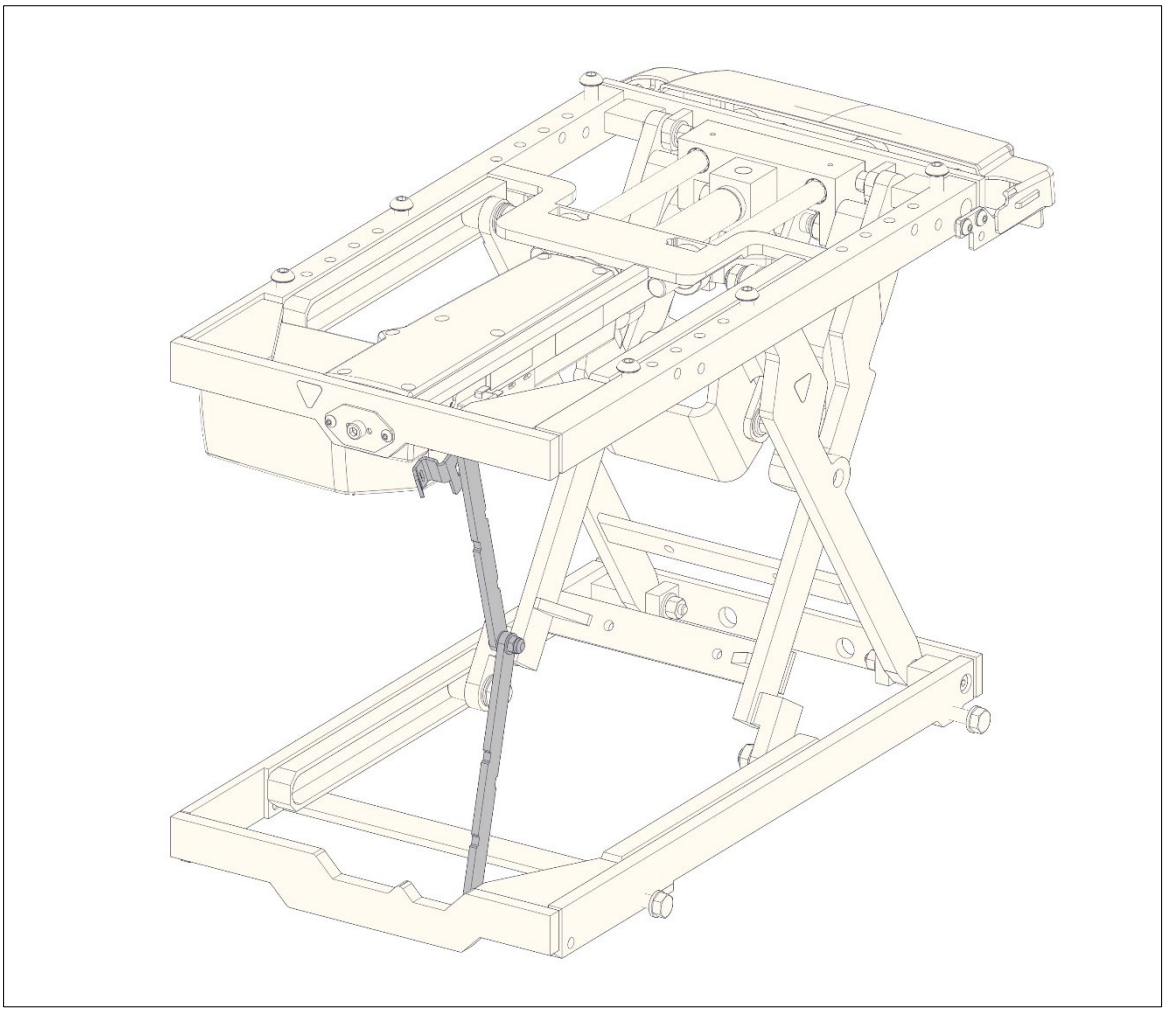
AMYLIOR

INSTRUCTION GUIDE

POWER ELEVATE MODULE WIRING



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INTRODUCTION

To avoid wire pinching, the following instructions will explain how to route and attach cables, for the power elevate module or combination "combo" power modules configurations, **using the cable guide**.

WARNING: Before performing any type of replacement work, the following instructions must be read and understood. If these instructions are not fully understood or guidelines are not followed, technicians and/or users could be injured, equipment could be damaged, and the warranty could become void. For information on parts or if you have any questions, please contact Amylior Technical Support by email at techsupport@amylior.com or by phone at 1 888 453-0311.

To avoid injuries during procedures described in this guide, the wheelchair should not be occupied.

WARNING: Regardless of where a cable is attached, it is very important not to let any cable stick out from the wheelchair or form a loop that could catch on an external object when moving around with the chair. This could cause severe damage to the wheelchair's components or power supply.

DANGER: Technicians must make sure that there is no potential for pinched wires throughout the entire movement when operating the power positioning modules. Pinched wires can cause damage to the wheelchair's electrical system and may result in damage and/or injury.

NOTE: The yellow or gray tie wraps shown in the images in the following pages are for illustrative purposes only, as these ties are normally black.
Before making any adjustments, it is important to take photos or to note where and how the cables are attached, so that they are placed in the same location and attached in the same way.

IMPORTANT

The location of a cable guide depends on the wheelchair's power options. If the chair has a power elevate only, the cable guide is located at the front of the chair. If the chair has a combination of a power tilt and a power elevate, the cable guide is located at the back of the chair.

Not all configurations will require wiring the actuator cables along the cable guide, in some instances, other cables such as controller or power cables, will be routed along the cable guide.

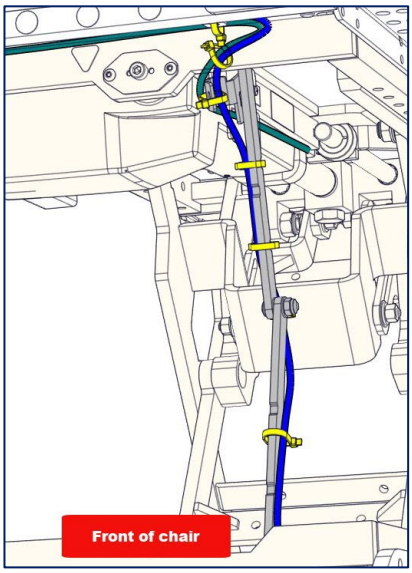
There are 3 possible configurations:

1. For a power elevate only, with the actuator cable not routed along the cable guide, but other cables will need the cable guide.
2. For a power elevate only, with the actuator cable and potentially other cables routed along the cable guide.
3. For a combo power tilt/elevate, with some cables routed along the cable guide, depending on the electronics.

CHOOSE YOUR CONFIGURATION

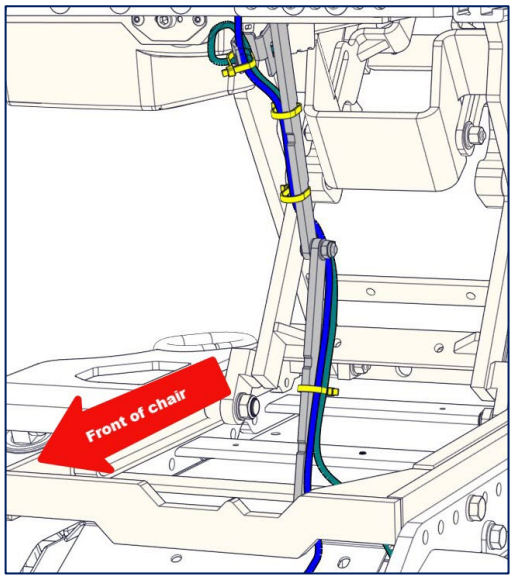
Three possible configurations: (the actuator cable is green)

Configuration 1



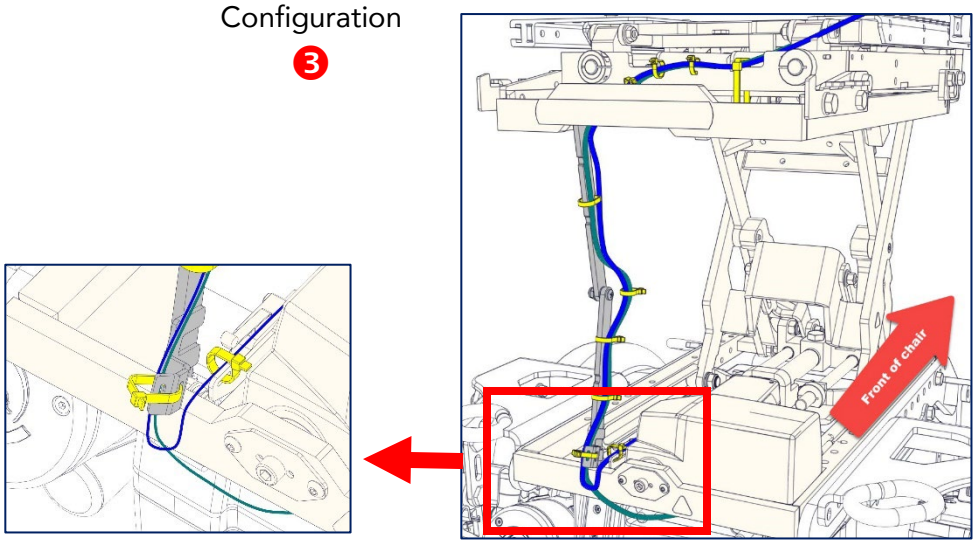
With a **power elevate only,** the actuator cable is not routed along the cable guide, but other cables are. The cable guide is located at the front of the chair.

Configuration 2



With a **power elevate only,** the actuator cable is routed along the cable guide located at the front of the chair.

Configuration 3



With a **combination of power tilt and power elevate,** the elevate actuator cable and/or other cables are routed along the cable guide. The cable guide is located at the back of the chair.

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PREPARATION

Required tools

1 x flush cutter pliers	
1 x portable light	
1 x tape measure	
1 x camera	

Tie wraps required

7½" Tie wraps. (3/16" width) Referred to as medium tie wraps Note: Use these for attaching cables, unless otherwise specified.	
5½" Tie wraps. (5/32" width) Referred to as small tie wraps	

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1.0 WIRING INSTRUCTIONS

1.1 Before you start

a. Turn wheelchair on and activate power elevate to its highest position.
b. **Take pictures** of the entire seating mechanism, its cables, and the location of all tie-warps.

WARNING!
After executing the above steps, for your safety, turn chair off and disconnect battery. Refer to the Owner's Manual section "Battery use, cables, breaker reset, & removal" for more details.

1.2 Disassembling

a. Remove tie wraps very carefully to avoid any damages.
b. Disconnect cables going through the cable guide. Replace all defective cables.

1.3 Reassembling

WARNING!
To avoid wire pinching, equipment damage or problems, all cables and tie wraps must be reinstalled as instructed in this guide. Unless specified otherwise, tie wraps should be tight enough to prevent any excessive rotation/movement of cables, but not too tight to cause damage or strain the cables.

There are 2 types of cable guides:

a. With notches along the cable guide providing predetermined locations for tie wraps.
b. Without notches

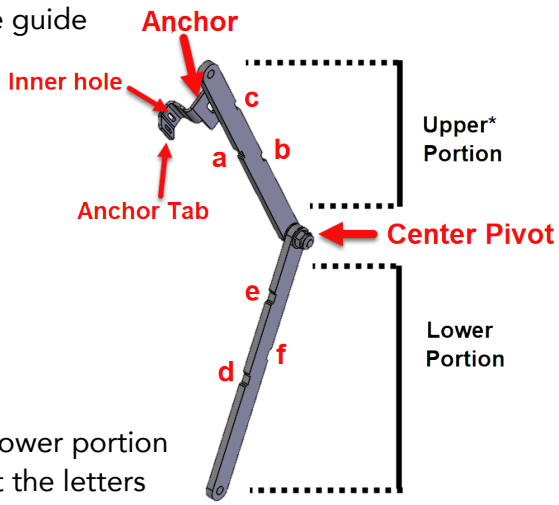
NOTE: Instructions contained in this guide use a cable guide with notches. Tie wraps installed on a cable guide without notches should be located at the same place as the notched cable guide. Whether the cable guide has notches or not, the location of tie wraps described in this guide, will be referred to with the following letters from a to f.

Notch measurements are taken from the Center Pivot

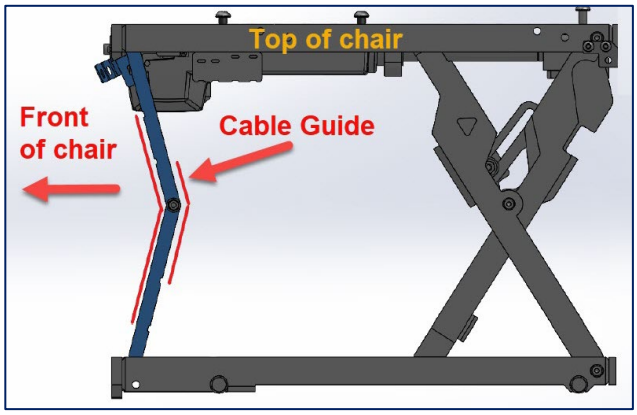
a = 2 7/8" (73 mm)
b = 1 ½" (38 mm)
c = 3 ½" (73 mm)
d = 4 5/8" (117 mm)
e = 2 5/8" (67 mm)
f = 3 3/8" (86 mm)

* The upper portion becomes the lower portion for a combo power tilt/elevate, but the letters maintain their identity.

Cable guide

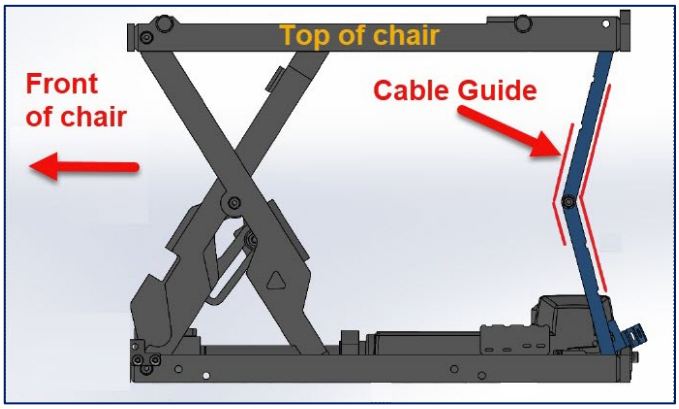


Power Elevate ONLY seat structure



The cable guide for a chair with power elevate only, is located at the front of the chair

COMBO Power Tilt & Elevate seat structure



The cable guide for a chair with a combo power tilt/elevate, is located at the back of the chair.

Three possible configurations:

Configurations with Power Elevate ONLY (Left image)

1. The actuator cable is NOT routed along the cable guide, but other cables may.
   Refer to Section 2.0 “Elevate without Actuator Cable through the Cable Guide” below.
2. The actuator cable IS routed along the cable guide and other cables may.
   Refer to Section 3.0 “Elevate with Actuator Cable through the Cable Guide” on page 13.

Configuration with COMBO Power Tilt/Elevate (right image)

3. The actuator cable and/or other cables are routed along the cable guide.
   Refer to Section 4.0 “COMBO: Tilt and Elevate Modules” on page 14.

2.0 ELEVATE WITHOUT ACTUATOR CABLE ALONG THE CABLE GUIDE

NOTE: Refer to image in step 1.3 on the previous page for tie wrap notch location legend.

2.1 Using a tie wrap, secure all cables originating from the base, along the right side (when facing chair) of the cable guide. Attach a tie wrap at notch “f” (notches “e” and “d” are not used for this procedure). Cables should run parallel to the cable guide and slightly slide through the tie wraps. For more than one cable, the order must be kept even after the half turn around the center pivot and on the left side of the cable guide. This means that the first cable on the lower portion of the cable guide must remain first after the half turn around the center pivot on the upper portion of the cable guide. Refer to image 2.1 on the following page or image 3.1 on page 13.

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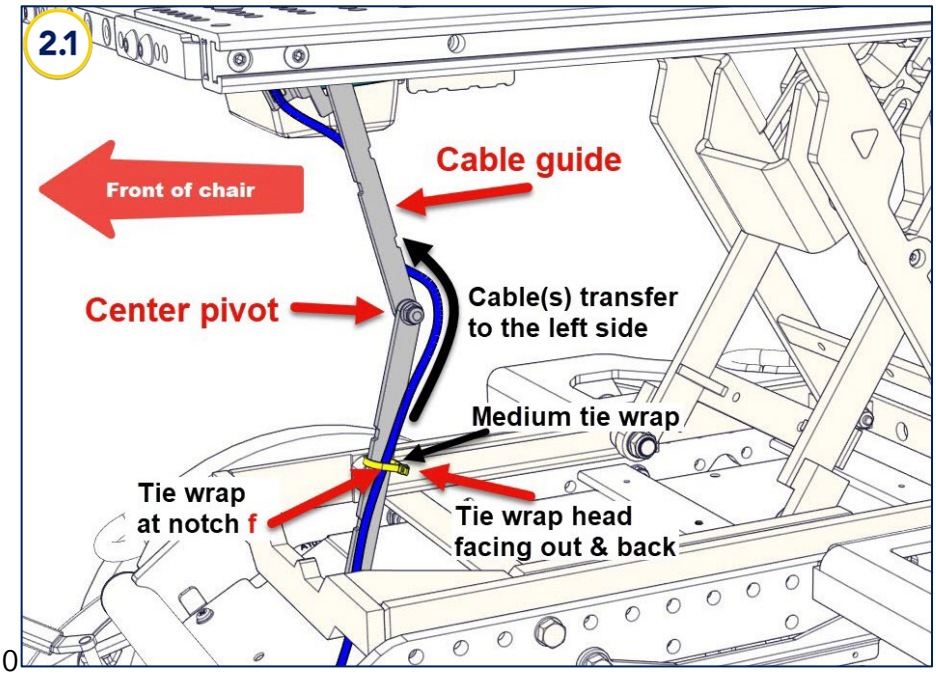
NOTE: The head of the tie wraps should always face the outside toward the back of the cable guide to prevent any obstructions when the cable guide closes.



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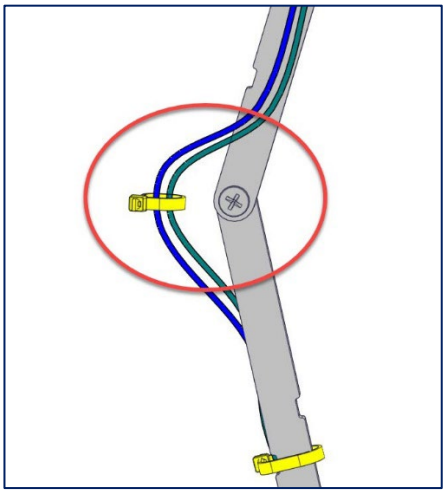
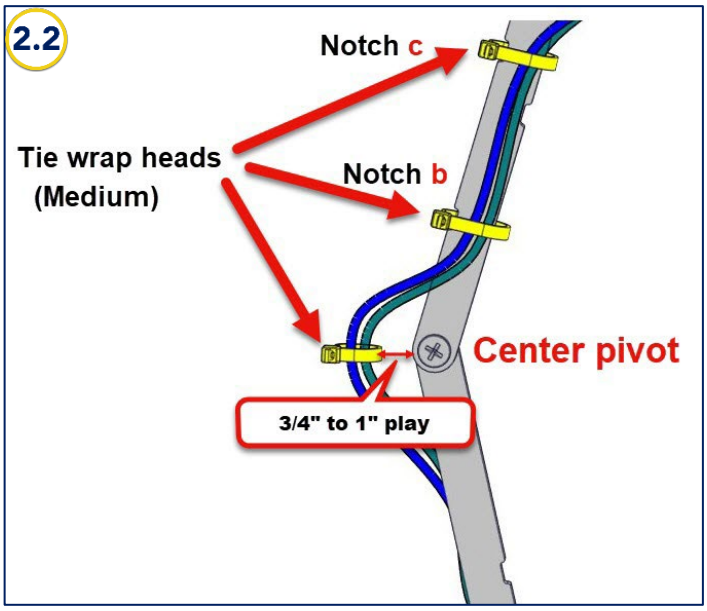
HINT: Always attach a tie wrap to the cable(s) near the center pivot (not onto the cable guide) to protect the cable(s) from rubbing the cable guide as it opens and closes. To preserve the cable sheath, a tie wrap should be attached even if there is only one cable. The head should face the outside/back of the cable guide.



2.2 At this point, when facing the chair, all cables above the center pivot should be on the left side of the cable guide. While making sure that you leave a ¾" to 1" play near the center pivot, attach cables at notches "b" and "c" on cable guide (notch "a" is not used).



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2.3 All cables, except for the actuator extension cable, must be secured with a tie wrap on the inside of the anchor tab's inner hole. The head of the tie wrap must face the outside of the anchor tab.

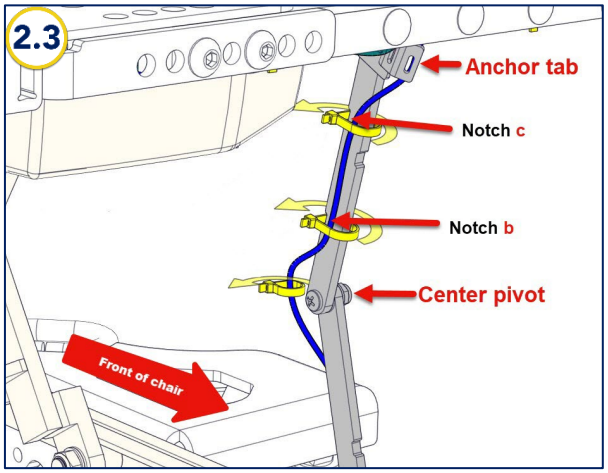

Image A

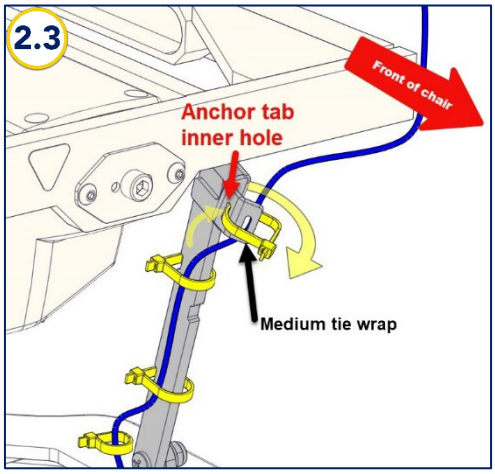

Image B

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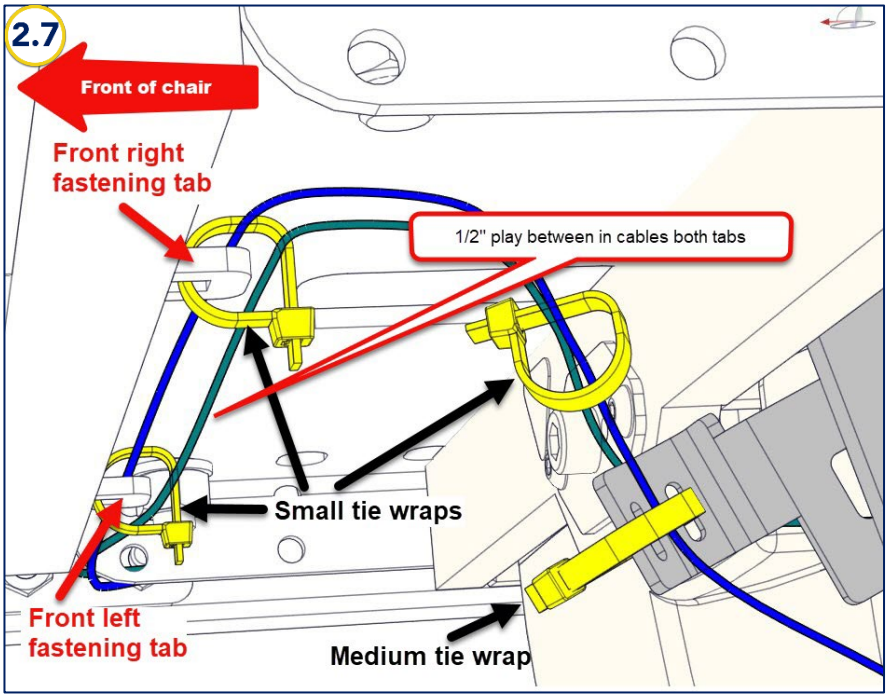
2.4 Bring all the cables up and underneath the seat pan. Cables should follow the seat pan toward the front of the chair. Locate the 2 fastening tabs underneath the front of the seat pan.
Refer to image 2.7.

NOTE: For **POWER CENTER ELEVATING FOOTBOARD** proceed to step 2.12, page 12.

2.5 Using both fastening tabs along the front of the seat pan, insert a small tie wrap into each tab and around the cables. Only tightened tie wraps halfway so that the cables can move freely. Tie wraps will be tightened later. Refer to image 2.7 for the location of each tab.

2.6 Connect all cables including the battery cable. You may want to refer to the Owner's Manual for battery cable connection. Turn chair on.

2.7 While watching the newly installed cables closely, SLOWLY close the power elevate module. Verify that none of the cables are being strained or squeezed/pinched during the process. You may want to move some cables or change the tightness of certain tie wraps to avoid damages. There should be some movement in the cables but not so much as to create oversized loops.
Refer to image 2.7 below.



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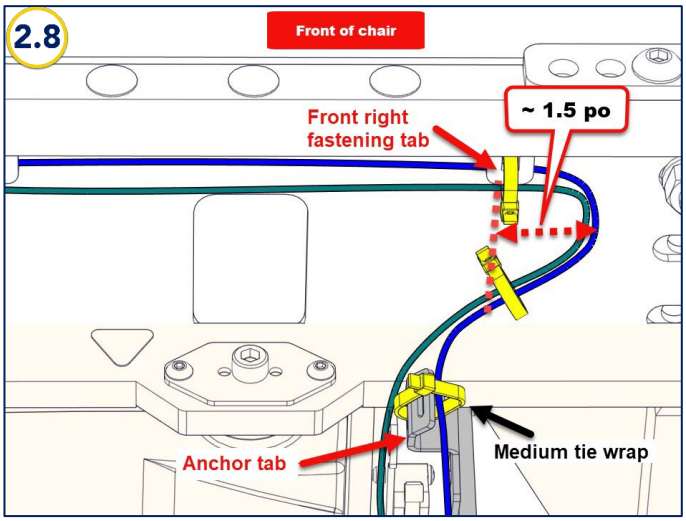
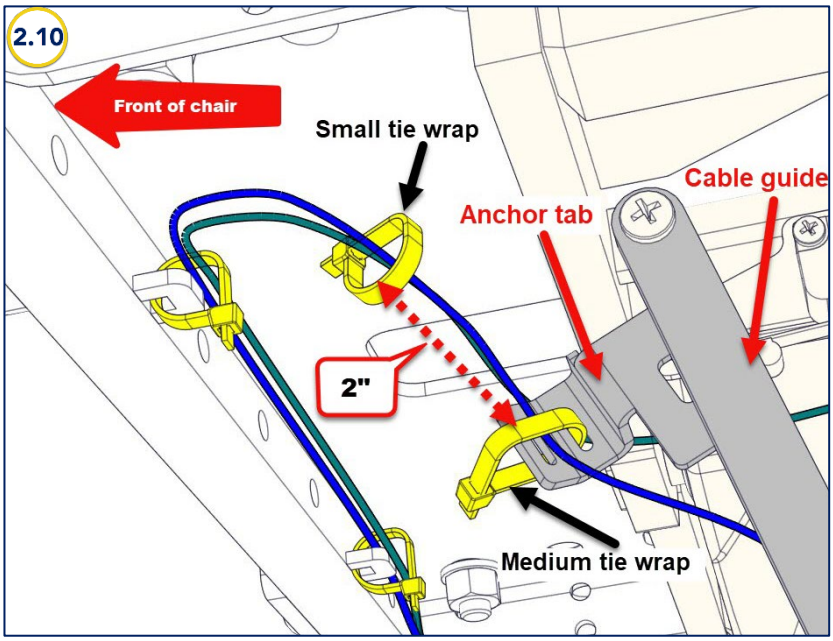
2.8 Activate power elevate to its highest position. Underneath the seat, near the right front tab, the cables should make half a loop of about 1-½" radius which will slightly recede when the power elevate module is lowered. Refer to the image 2.8 below.



2.9 Now is the time to tighten the tie wraps that were installed on each tab at step 2.5. Again, tie wraps should not be too tight, make sure cables can slide through the tie wrap loops. Leave about a ½" play in cables between both tabs.

2.10 When facing the chair, locate the cable guide anchor underneath the right side of the seat pan. Measure approximately 2" from the anchor toward the right front tab. Using a small tie wrap, attach cables together leaving it somewhat loose to allow movement during module activation.



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2.11 Using tie wraps, secure all other cables that have not been attached. Excess tie on all tie wraps can be trimmed off, flush with the head. Sharp edges should be filed down to prevent damage or injury.

Proceed to Section 5.0 Functionality Test

NOTE: For POWER CENTER ELEVATING FOOTBOARD proceed with the following steps.

2.12 Using both fastening holes behind the power center mount and above the actuator support, insert a small tie wrap into each hole and around the cables. Only tightened tie wraps halfway so that the cables can move freely. Tie wraps will be tightened later. Refer to image 2.17 for the location of each fastening holes.

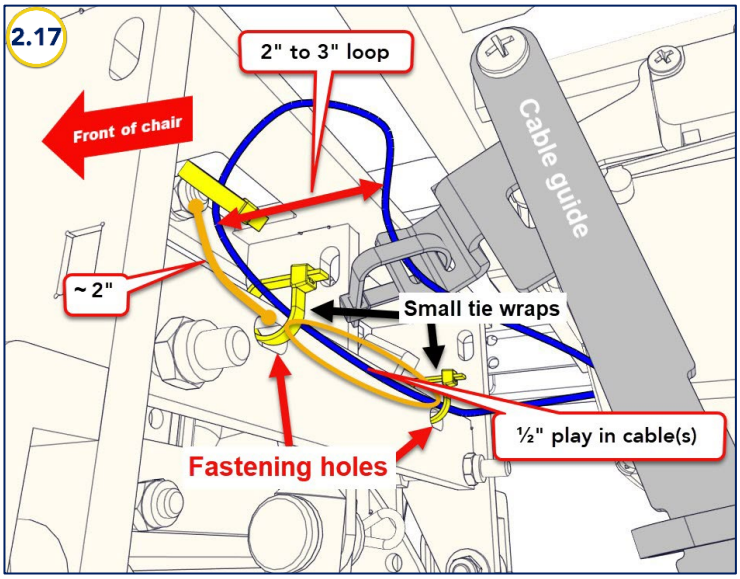
2.13 Connect all cables including the battery cable. You may want to refer to the Owner's Manual for battery cable connection. Turn chair on.

2.14 While watching the newly installed cables closely, SLOWLY close the power elevate module. Verify that none of the cables are being strained or squeezed/pinched during the process. You may want to move some cables or change the tightness of certain tie wraps to avoid damages. There should be some movement in the cables but not so much as to create oversized loops.

2.15 Activate power elevate to its highest position. Underneath the seat, on the right-hand side, the cables coming from the cable guide should make half a loop of about 2 to 3" diameter which will slightly recede when the power elevate module is lowered. Refer to the image 2.17.

2.16 Now is the time to tighten the tie wraps that were installed in each hole at step 2.12. Again, tie wraps should not be too tight, make sure cables can slide through the tie wrap loops. Leave about a ½" play in cables between both fastening holes.

2.17 When facing the chair, locate the right fastening hole behind the power center mount, underneath the seat pan. Measure approximately 2" from the hole toward the cable guide. Using a small tie wrap, attach cables together leaving it somewhat loose to allow movement during module activation.

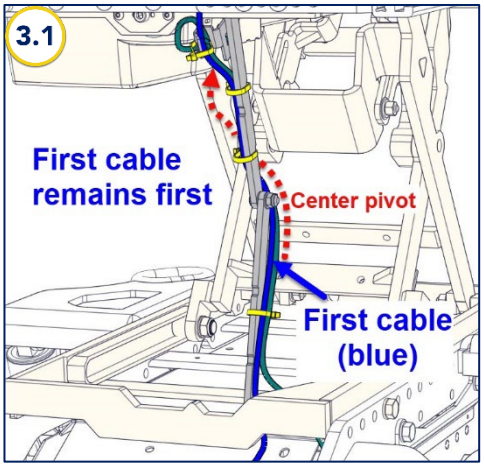


Proceed to Section 5.0 Functionality Test

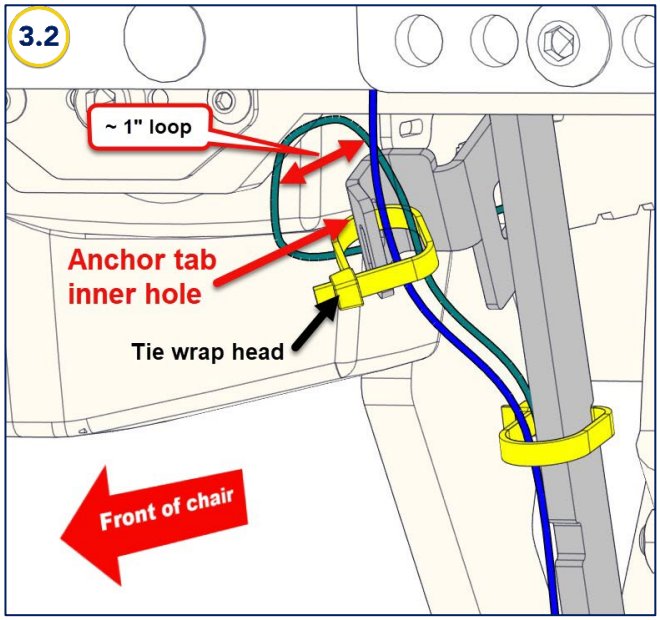
3.0 ELEVATE WITH ACTUATOR CABLE THROUGH THE GUIDE

3.1 Start at Section 2.0. Follow instructions up until step 2.3 (inclusively) before proceeding to the following steps. Do not tighten tie wraps all the way for now. This will help make adjustments in the cables as you attach them.

NOTE: Make sure that cables stay parallel along the cable guide and in the same order. This means that the cable that is first on the lower portion of the cable guide must remain first after the half turn around the center pivot on the upper portion of the cable guide, as shown in image 3.1 below.



3.2 Refer to the image 3.2 below. Give an extra ¾"- 1" to the extension actuator cable and create a small loop. Using a tie wrap, secure all cables to the anchor tab inner hole. The tie wrap head should face the outside of the anchor tab.



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3.3 Now is the time to tighten the tie wraps that were along the cable guide. Again, tie wraps should not be too tight, make sure cables can slide through the tie wrap.

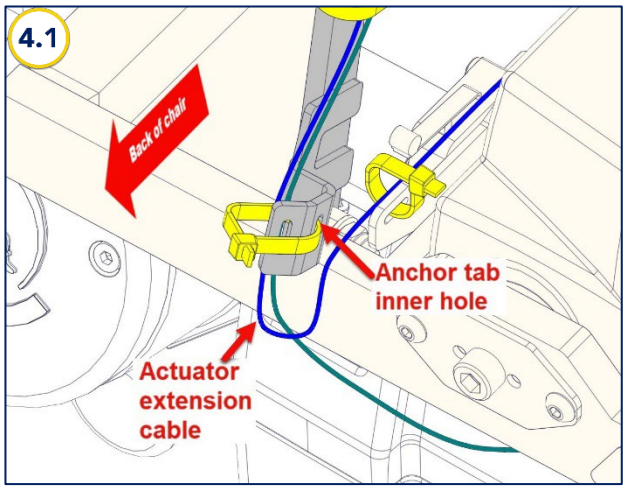
3.4 Proceed to the **NOTE** after Step 2.4 on page 10.

Proceed to Section 5.0 Functionality Test

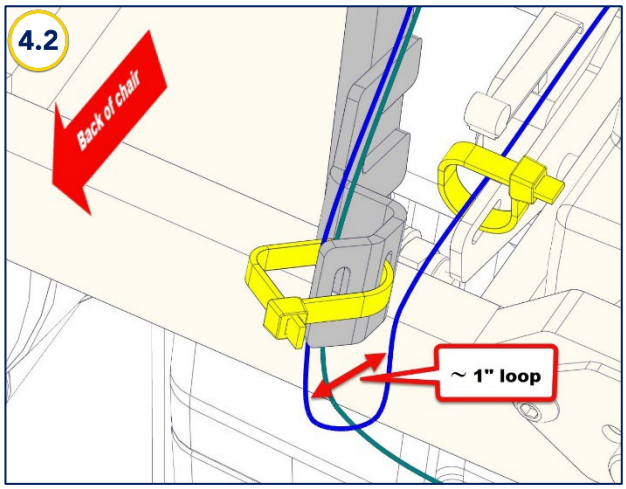
4.0 COMBO: TILT AND ELEVATE MODULES

- Refer to image in step 1.3 on page 6 for tie wrap notch location legend

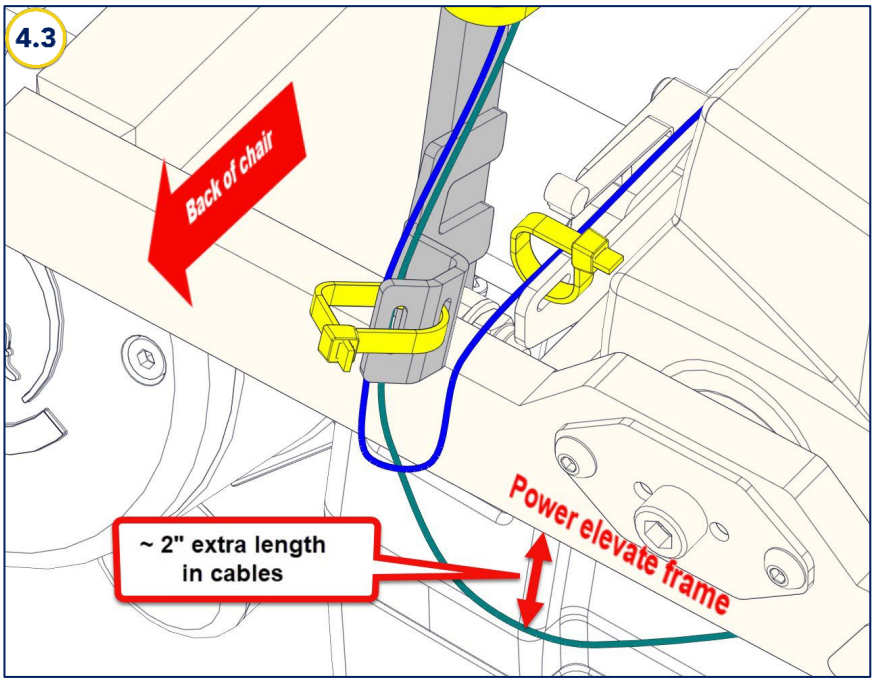
4.1 Using a tie wrap, secure cables originating from underneath the elevate module as well as the cable(s) from the elevate actuator. The tie wrap must go through the inner hole of the anchor tab on the cable guide. The tie wrap head should face the outside of the cable guide anchor tab. The elevate actuator extension cable must be placed over the cable(s) that originate from underneath the elevate module as shown below.



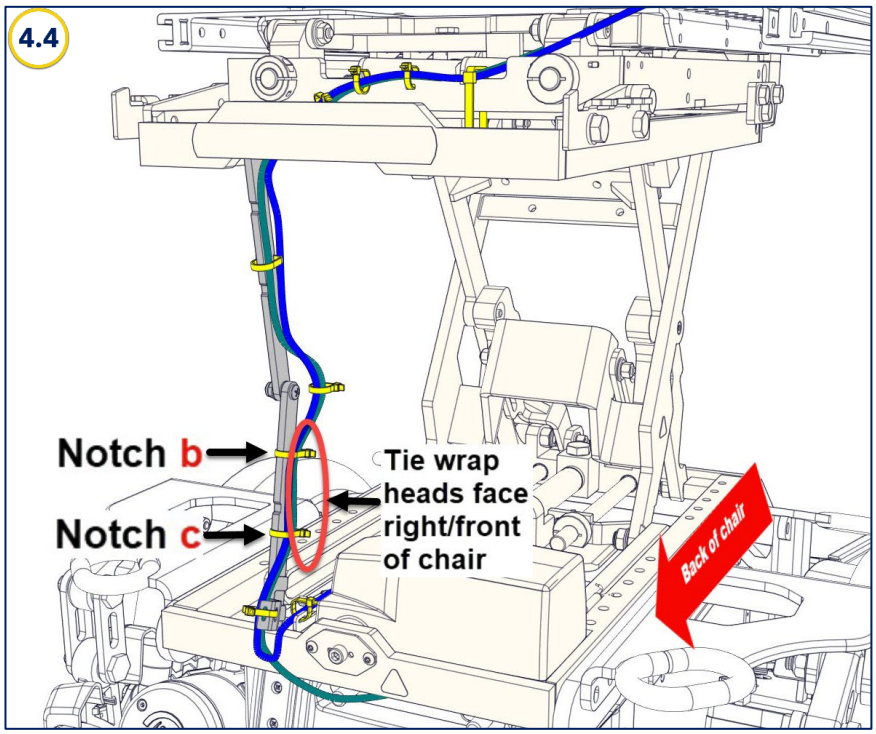
4.2 Give a little extra length in the elevate extension cable to create a loop of about ¾”- 1” as shown in image below.



4.3 For the other cable(s) that originate from underneath the elevate module, extend cable(s) toward the back of the chair to give an extra 2" length between the cable(s) and the power elevate frame.



4.4 When facing the back of the chair, route cables on the right side of the cable guide. Attach a tie wrap at notches "b" and "c" on the cable guide. Refer to page 6 for notch location legend (notch "a" is not used). Tie warp heads should face the right side and toward the front of the chair.



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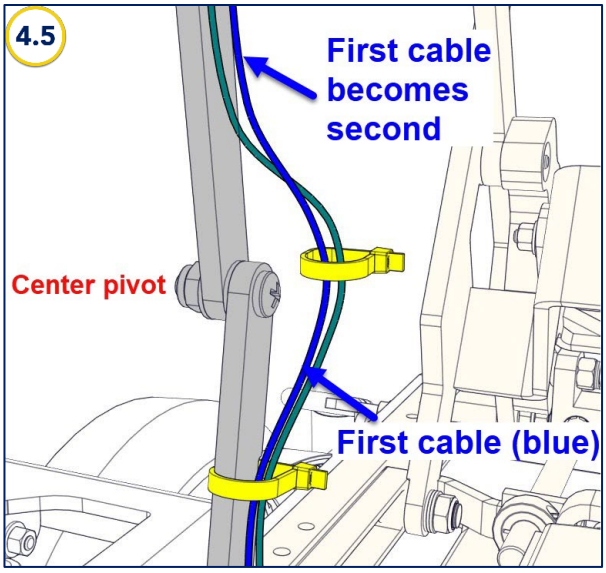
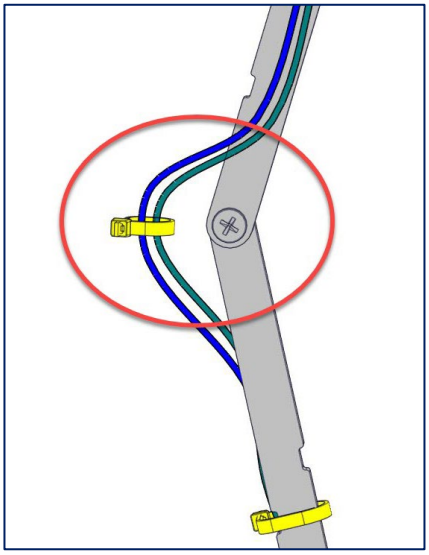
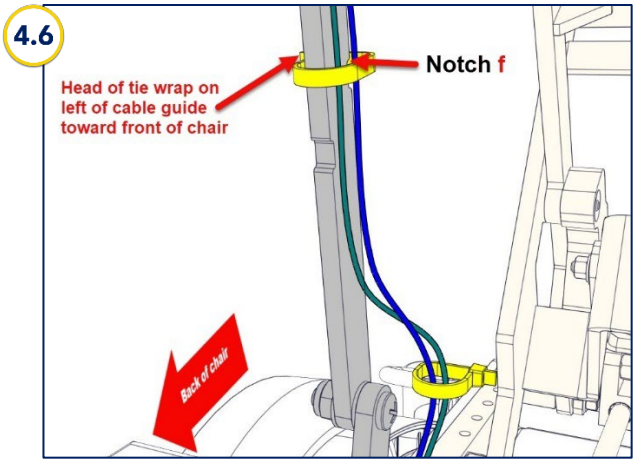
4.5 As the cables are being routed upward on the cable guide, twist cables at the center pivot so that the first cable on the bottom portion of the cable guide becomes the second cable on the upper portion of the cable guide. Refer to the image 4.5 below.



HINT: Always attach a tie wrap to the cable(s) near the center pivot (not onto the cable guide) to protect the cable(s) from rubbing the cable guide as it opens and closes. To preserve the cable sheath, a tie wrap should be attached even if there is only one cable. The head should face the outside/back of the cable guide.



4.6 On the upper portion of the cable guide, attach cables on the right side with a tie wrap at notch "f" of the cable guide (refer to page 6 for notch location legend). The head should be on the left side of the cable guide facing toward the front of the chair, as shown below in image 4.6.



IMPORTANT: Make sure all cables run along the right side on the upper portion of the cable guide before routing them along the back of the tilt module as shown in images 4.7.

4.7 Using tie wraps, attach all cables together onto the back frame of the tilt module as shown below. Refer also to image 3 on page 4 for another view of the wiring.

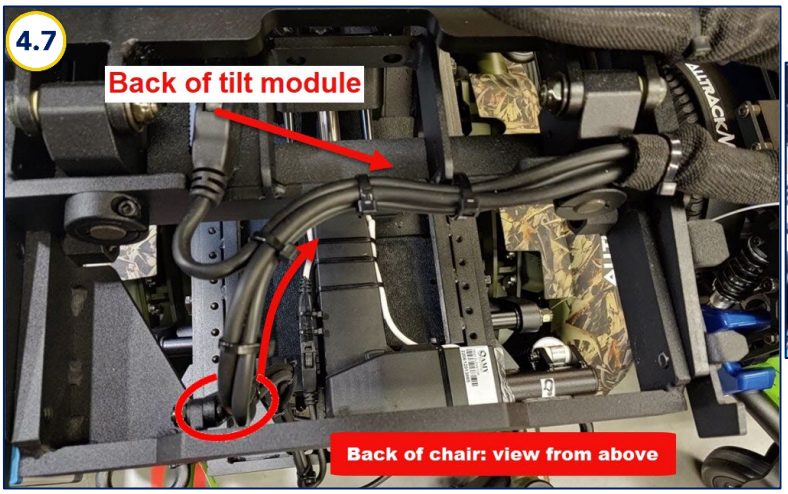


Image A

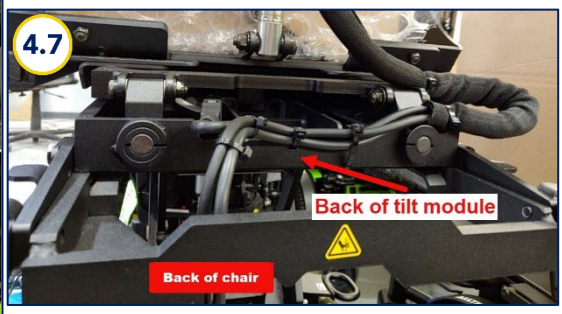


Image B

4.8 Excess tie on all tie wraps can be trimmed off, flush with the head. Sharp edges should be filed down to prevent damage or injury.

Proceed to the following Functionality Test

5.0 FUNCTIONALITY TEST

5.1 Connect all cables including the battery cable. You may want to refer to the Owner's Manual for battery cable connection. Turn chair on.

5.2 While watching the newly installed cables closely, SLOWLY activate the power elevate module up and down, twice. Verify that none of the cables are being strained or squeezed/pinched during the process. If you notice anything abnormal in the movement or tie wrap heads seem to be interfering, STOP immediately! The following images show key spots to check when activating the power elevate module:

For a power elevate only

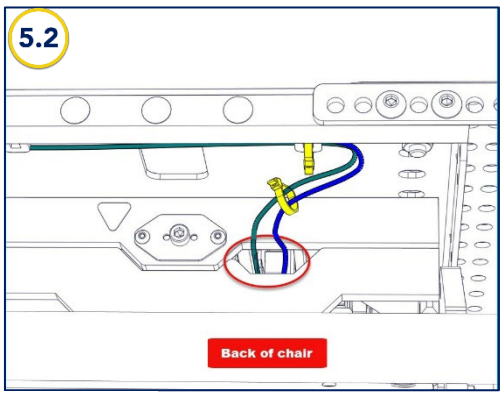


Image A

For combo power tilt/elevate modules

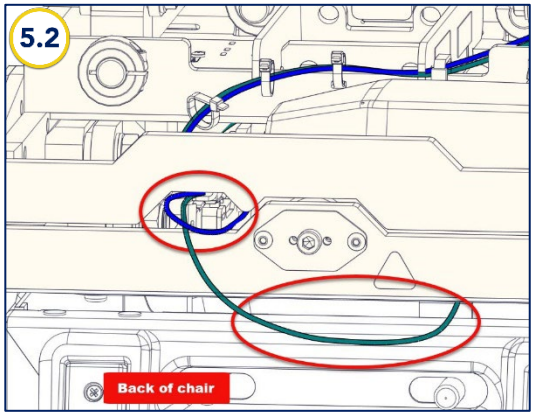


Image B

For combo modules

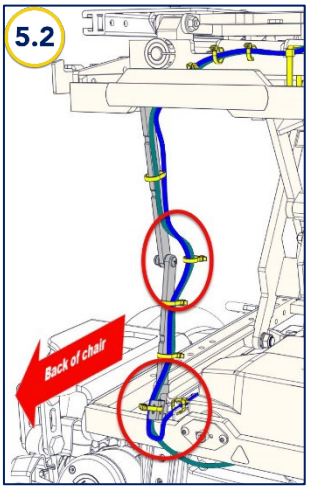


Image C

5.3 You may want to move some cables or change the tightness of certain tie wraps to avoid damages. There should be some movement in the cables but not so much as to create oversized loops.

5.4 If cables or tie wraps need to be repositioned, refer to Sections 2.0, 3.0, or 4.0 depending on your configuration. It is important to make sure there are no obstructions during the movement of the module.

5.5 A functionality test should be performed every time a cable or tie wrap is repositioned. Once the inspection is done, the power wheelchair is ready for use.

This completes the **Power Elevate Module Wiring Instruction Guide**. If further information is required, please contact Amylior Technical Support by email at techsupport@amylior.com or by phone at 1 888 453-0311