AMYLIOR IG-P17008 Replacing A Tilt Actuator and A Drive Lock-Out Switch Instruction Manual

INSTRUCTION GUIDE
REPLACING A TILT ACTUATOR & A DRIVE LOCK-OUT SWITCH

Contents

Introduction

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 seriously injured, equipment could be damaged, and the warranty could become void. For information on parts or if your have any questions, please contact Amylior Technical Support by email at techsupport@amylior.com or by phone at 1 888 453-0311.

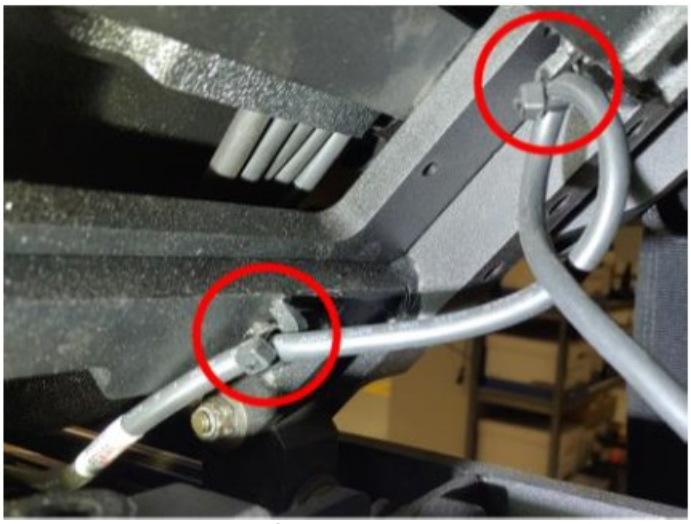
Replacement parts/kits in this guide

S-0152	MECHANICAL LIMIT SWITCH WITH HARDWARE
S-0153	ACTUATOR, STROKE 127 MM 6000N WITH HARDWARE
S-0204	IQ ACTUATOR STD TILT, STROKE 127 MM 6000N
S-0205	DRIVE LOCK-OUT SWITCH FOR TILT, E-BX

Important information

In this guide, there are two types of tilt systems and 2 different wiring installations.

a) The first type is a tilt system installed prior to September 2020.

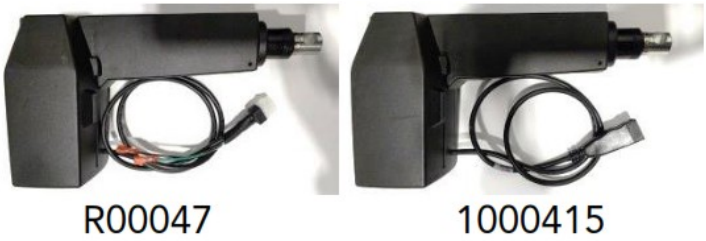


b) The second type is a tilt system installed after September 2020.

Required tools

1 x 6 mm Allen key	
1 x 6 mm Allen 3/8″ socket & 1 x 3/8″ extension bar	
1 x 6 mm Allen 3/8″ socket & 1 x 3/8″ extension bar	
1 x 3/8″ ratchet or impact driver	
1 x cutter pliers	
2 x 48″ x 1″straps	
1 x portable light	

Required items when replacing actuators S-0153 or S-0204

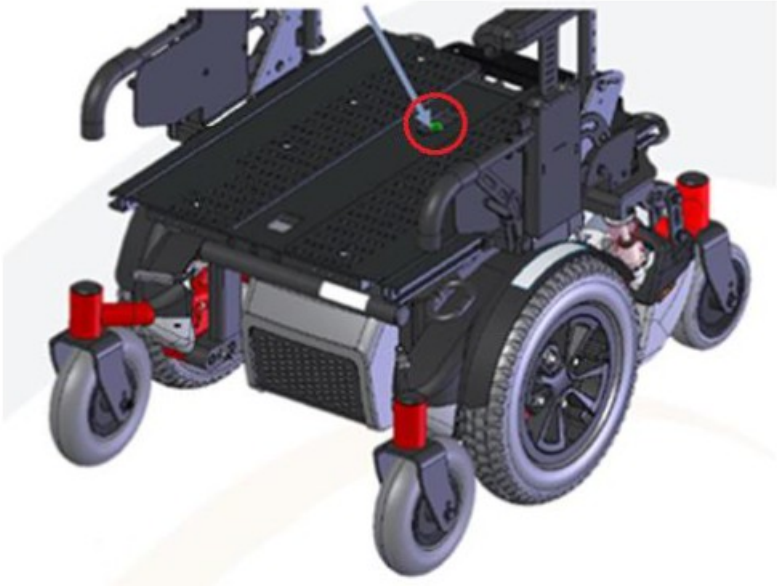
1 x new actuator R00047 (Actuator S-0153) or 1000415 (iQ Actuator S-0204)	
7 x B00051 5½” Tie-wraps (small)	
1 or 2 x B00052 7½” Tie-wraps (medium)	
1 x B00053 11″ Tie-wraps (long)	

Replacing actuators S-0153 and S-0204

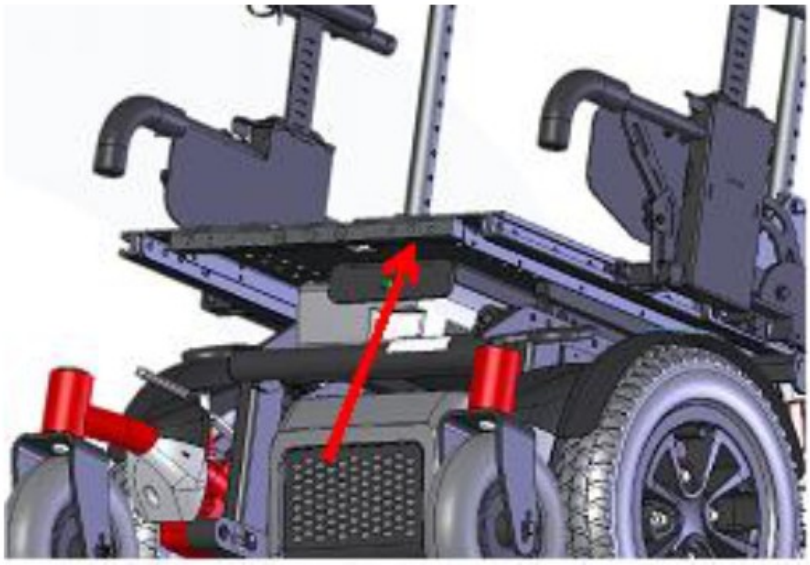
1. Retract tilt system back to its closed (neutral) position and remove seat cushion.
2. Using a 6 mm Allen key, through the hole in the seat pan, unscrew socket shoulder bolt to release the actuator shaft from the tilt module.

   ! **WARNING**

   HD tilt systems for 300 lb to 450 lb weight capacity, have compressed springs in the module when the actuator is in its neutral position. Unscrewing the actuator’s socket shoulder bolt will release tension suddenly, which causes the seat pan to pop up. It is important to take the necessary measures to avoid injury.



3. Hold the edge of the seat pan with your hand and lift the tilt system up to its maximum height.

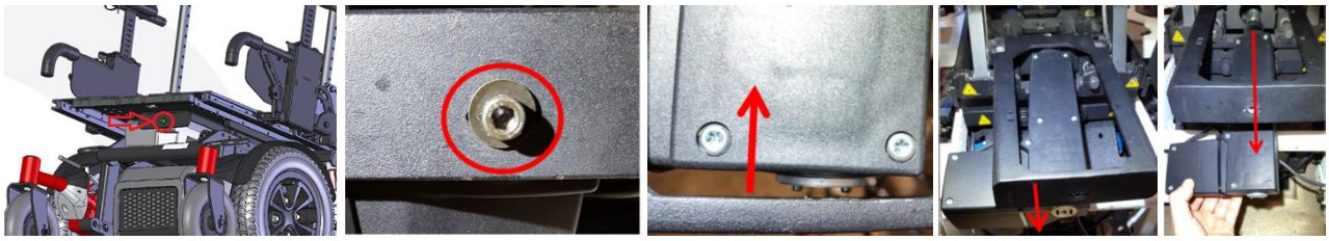


CAUTION!

4. After tilting the seat pan to its maximum, for safety reasons, the tilt system must be blocked to avoid injury. Attach straps on either side of the chair from behind the backrest to the back tie-down brackets.

5. Completely retract (close) tilt actuator if not already done and disconnect the actuator cable. If the actuator can no longer move with power, manually screw actuator shaft to its minimum length. Using the 3/8″ extension bar or the ratchet's handle as a lever, insert it into the actuator shaft hole to finish tightening it.

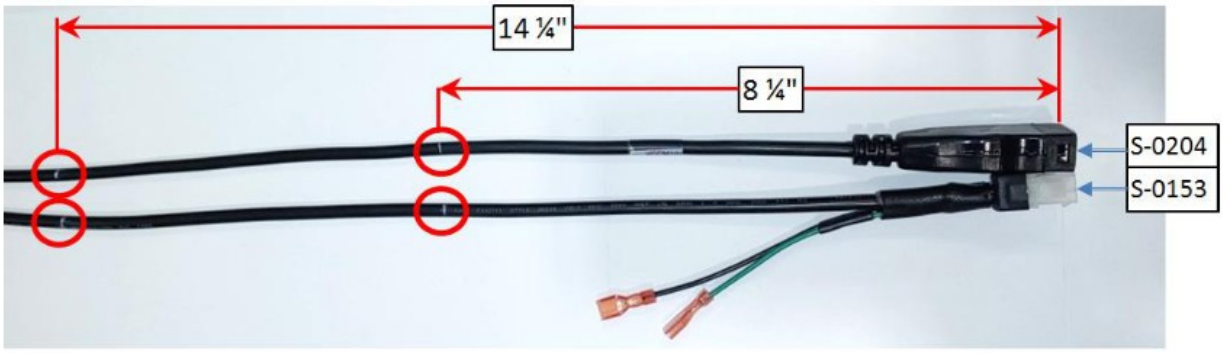
6. Take note of the actuator wiring path and cut tie-wraps holding the actuator cable and connector.
7. Using a 5 mm Allen key, unscrew the back securing screw on the actuator located at the front of the chair. Once the actuator is released, slide it slightly toward the back of the chair to remove the actuator's centering pins from the tilt system's cart. At this point, the actuator should come down in front of the chair. Remove the actuator from the cart by pushing it downward and then pulling it toward the front of the chair.



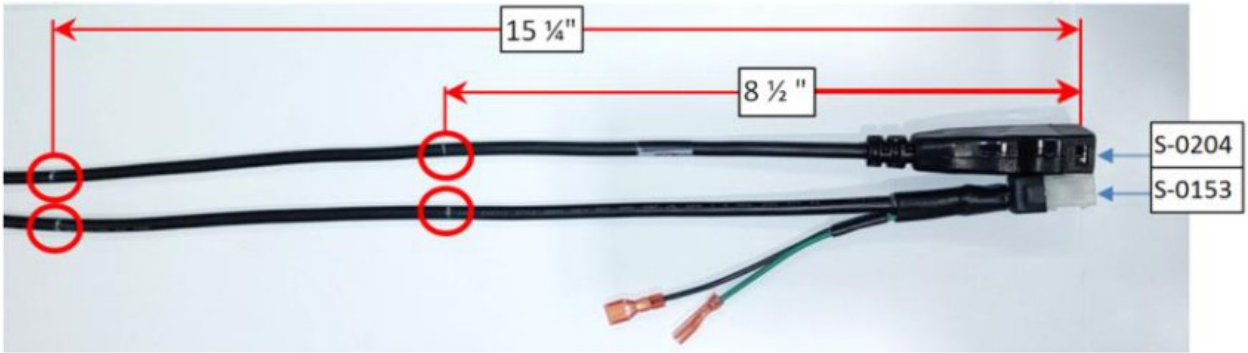
Note : If it is not possible to free the actuator from the cart, make sure the tilt system is up to its maximum height (fully opened) and check that the actuator is closed to its minimum length. Repeat steps 4 through 6 if necessary.

Preparing the new actuator cable

1. For tilt systems installed prior to September 2020. Using a pencil/pen, draw perpendicular lines on the new actuator cable in 2 places. For S-0153 or S-204, measuring from the end of the connector, draw a line at 8 ¼" and the other at 14 ¼".



2. For tilt systems installed after September 2020. Using a pencil/pen, draw perpendicular lines on the new actuator cable in 2 places. For S-0153 or S-204, measuring from the end of the connector, draw a line at 8 ½" and the other at 15 ¼".



Running the cable for the new actuator

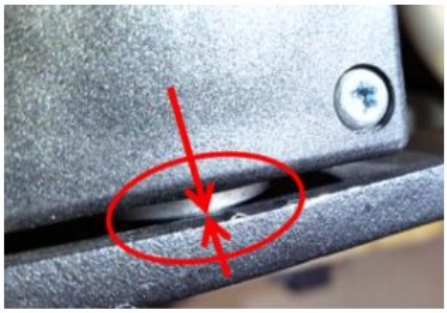
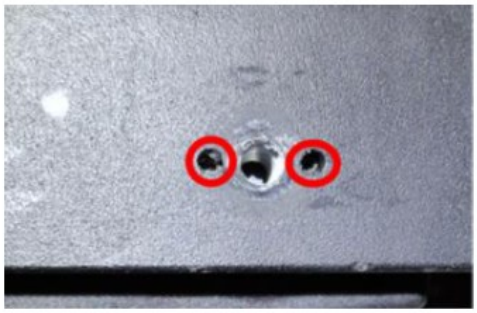
Run the cable for the new actuator through the tilt mechanism all the way to the back of the chair as shown below.



Installing the new actuator

Make sure that the new actuator is at its shortest length. Insert it into the tilt system's cart. Make sure the centering pins are aligned with the cart's two centering holes. Using a 5 mm Allen key, screw the back of the actuator to the cart.

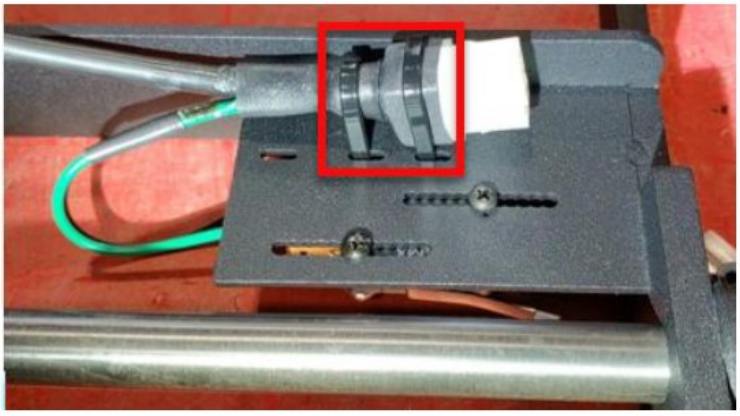


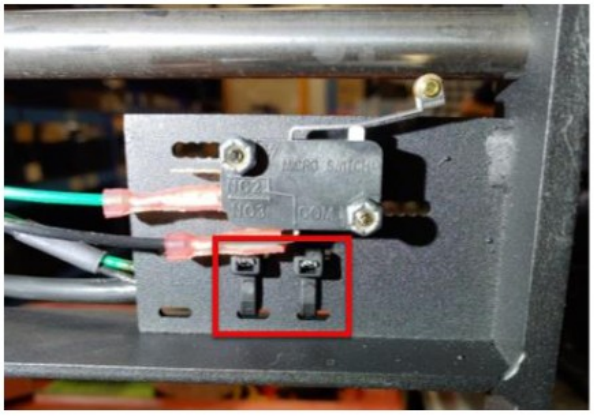





! WARNING
Before using the chair's electronic system to move an actuator, take the necessary measures to avoid any injury.

Attaching the actuator connector using parts S-0153

Using 2 small tie-wraps (5½"), attach actuator connector onto connector support, making sure heads are placed as shown below. Cut excess tie off, flush with head, and make sure no sharp edges remain. Reconnect actuator to extension cable previously disconnected.





Attaching the actuator connector using parts S-0204

Using 2 small tie-wraps (5½”), attach actuator connector onto connector support, making sure heads are placed as shown below. Cut excess tie off, flush with head, and make sure no sharp edges remain. Reconnect actuator to extension cable previously disconnected.

Installing actuator on tilt base

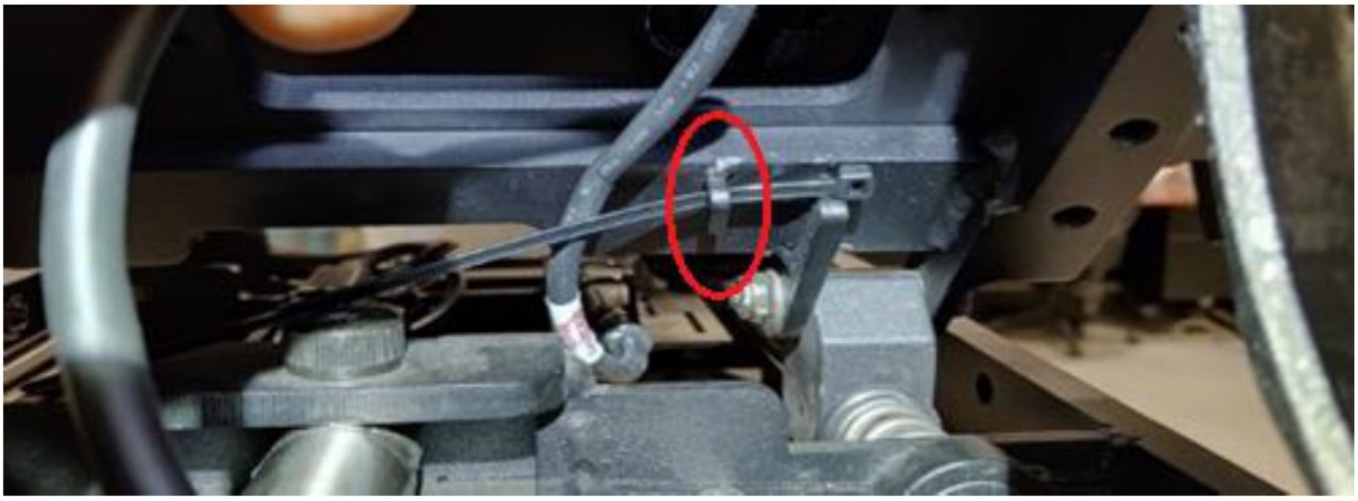
1. Using the joystick/switch to open the tilt actuator all the way until the hole in the actuator shaft aligns with the hole in the tilt base. Tighten the shoulder screw using a 6 mm Allen key.

2. Undo and remove the straps that secured seat to chair.

Attaching new actuator cable on the seat support for tilt systems installed prior to September 2020

Use cable fastener as shown below.

a. Pass the small tie-wrap (5½”) through the cable fastener under the seat support, making sure the cable runs between the seat support and the tie-wrap.



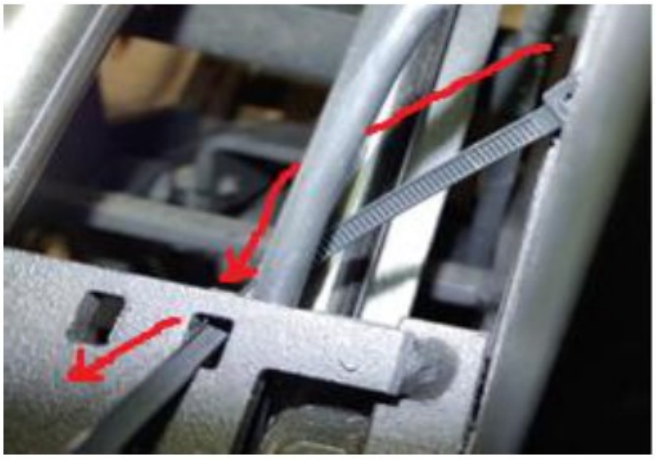
b. Loop the tie-wrap behind the cable back toward the cable fastener aligned with the first line previously drawn on the cable. Do not overtighten tie-wrap to avoid creating a crimp in the cable. Cut excess tie off, flush with head, and make sure no sharp edges remain.

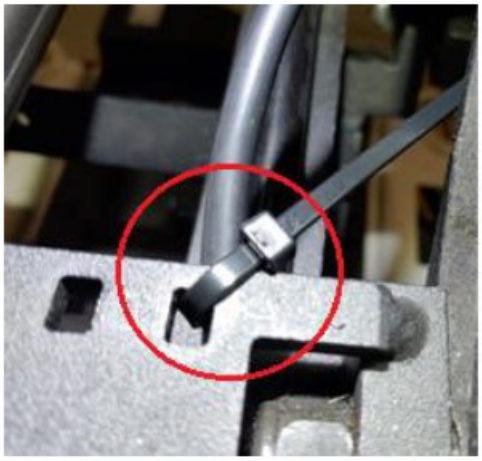
Attaching new actuator cable on the seat support for tilt systems installed after September 2020

Use the cable fastener that is parallel to the crossbar in the center of the seat support.
Pass the small tie-wrap (5½”) through the cable fastener under the seat support as shown below and tighten the tie-wrap on the first line previously drawn on the cable. Do not overtighten tie-wrap to avoid creating a crimp in the cable. Cut excess tie off, flush with head, and make sure no sharp edges remain.

Attaching new actuator cable on the tilt system cart (before and after Sept. 2020)

Make sure the second drawn line on the cable is aligned with the edge of the cart. Slide the tie-wrap (small) from right to left, under the cable, into the cart’s hole and looped back over making sure that the cable does not interfere with the mechanism on the right. The cable should end up on the left side of the fastened tie-wrap as shown below. Do not overtighten tie-wrap to avoid creating a crimp in the cable. Cut excess tie off, flush with head, and make sure no sharp edges remain.

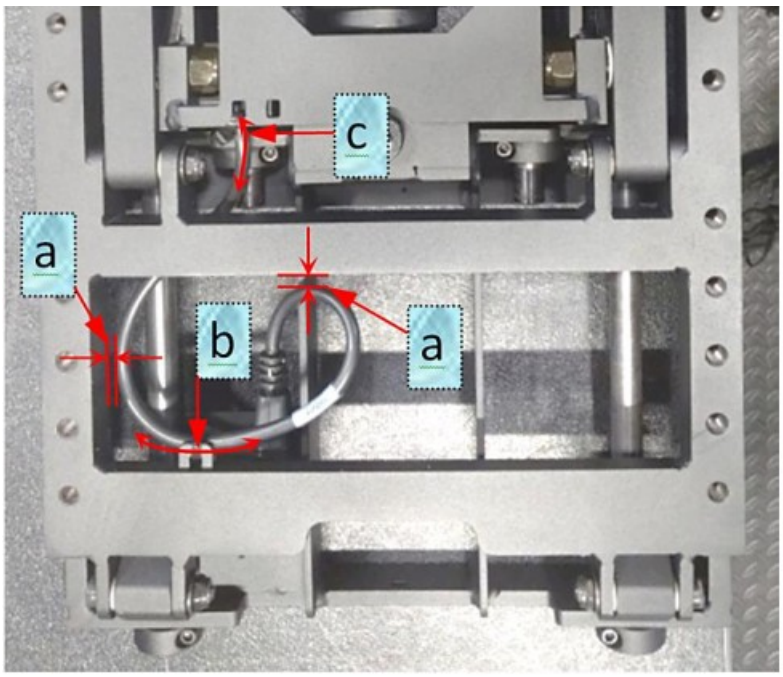




Verifying the wiring path (before and after September 2020)

Caution!

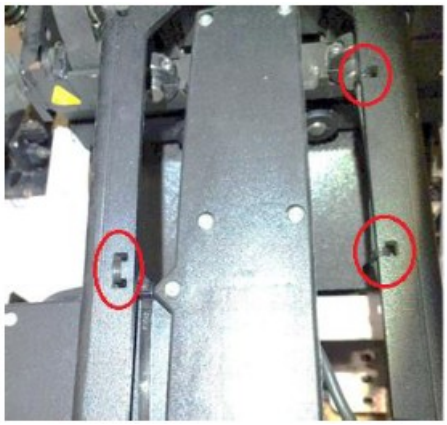
1. Be aware that the lines drawn on the cable are typical measurements for a cable installation and that due to the complexity of the system, there may be some physical differences from one tilt system to another.
   a) Make sure that the actuator cable is never too tight to prevent a full tilt movement or that cable loops are never too large to cause the cable to get pinched during tilt movement.
   b) If the cable is too tight or a loop is too large, slightly slide it through the cable fastener attached to seat support. An adjustment of ± ½" should do. See (b) on the image below.
   c) The drawn line on the cable aligned with the edge of the cart should not have to change unless the cable is too tight, or it interferes with the full movement of the tilt mechanism. See (c) on the image below.
   A proper installation of the cable should look like this:



   Example of a tilt system with a S-0204 iQ Actuator (installed after September 2020), closed without the seat pan (for demo)

   Finalizing the new actuator cable installation on the tilt system cart (before and after September 2020)

2. Using three small tie-wraps (5½"), fasten the actuator cable on the tilt cart as shown on the following images. Cut excess tie off, flush with head, and make sure no sharp edges remain.



3. Make sure the cable is right underneath the frame of the cart.

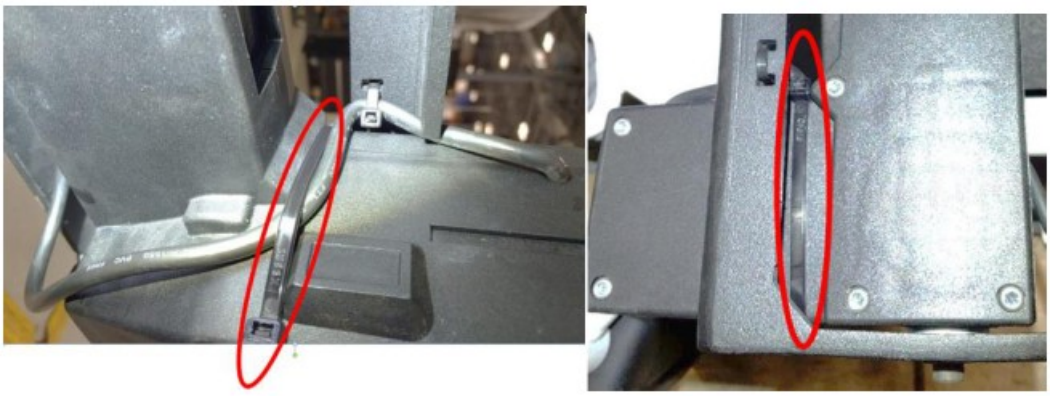
4. Use two different tie-wraps as follows:

a. The long one (11″) will be used on top toward the back.

b. The medium one (7.5″) will be used on the bottom.

c. Join both tie-wraps together and use them to wrap around the motor compartment of the actuator to insure a stable installation of the cable.The head of the long tie-wrap must end up on the top corner of the motor compartment toward the back of the chair. The head of the medium tie-wrap must end up on the lower corner of the motor compartment toward the back of the chair.

d. Cut excess tie off, flush with head, and make sure no sharp edges remain. The result should look like the images shown below.



e. Once the cable is securely attached, check that the cable does not get caught in the mechanism when closing and opening the tilt module. Reposition the cable if necessary, as described in previous steps.

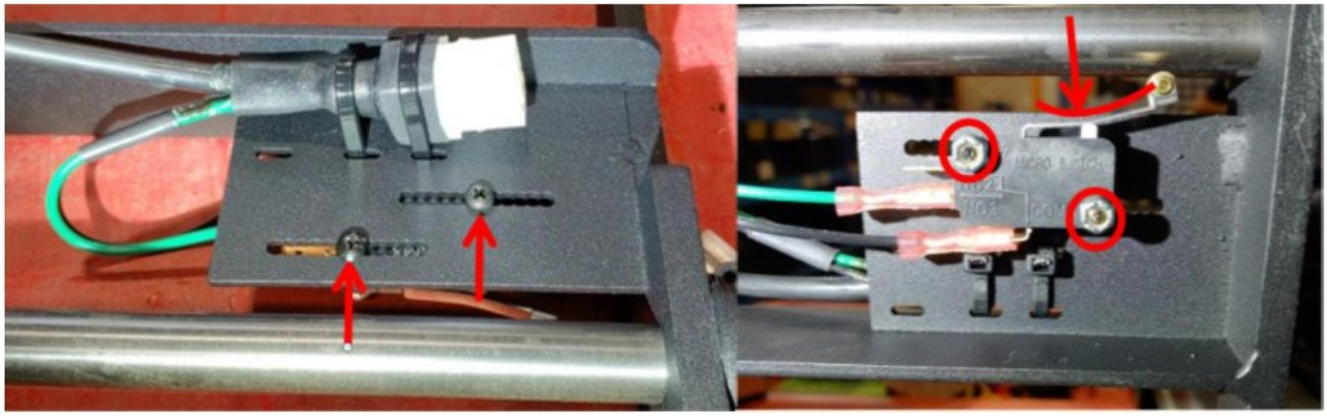
5. If the cable seems to be hanging, you can secure the excess cable with an additional medium tie-wrap on the right-hand side of the tilt cart. In this case, make sure that the head of the tie-wrap is on the bottom or toward the inside to prevent possible interference. Cut excess tie off, flush with head, and make sure no sharp edges remain.

6. For iQ Actuator S-0204 only, a position reset is required. Refer to section 3.4 Second special boot-up mode of the E-bx Instruction Guide.

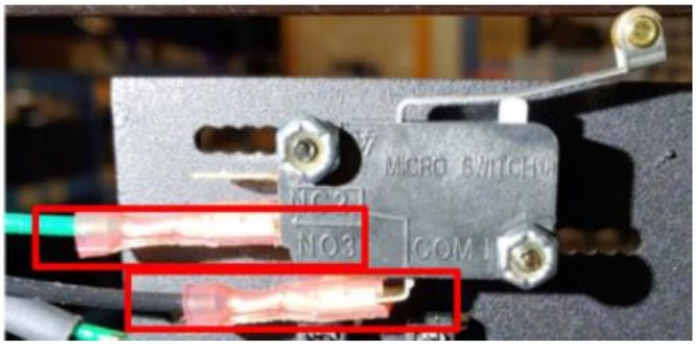
Replacing drive lock-out switch

Instructions using kit S-0152

1. After taking note of the location of each securing screw as well as the curve angle of the drive lock-out lever, unscrew all. Disconnect the drive lock-out switch.



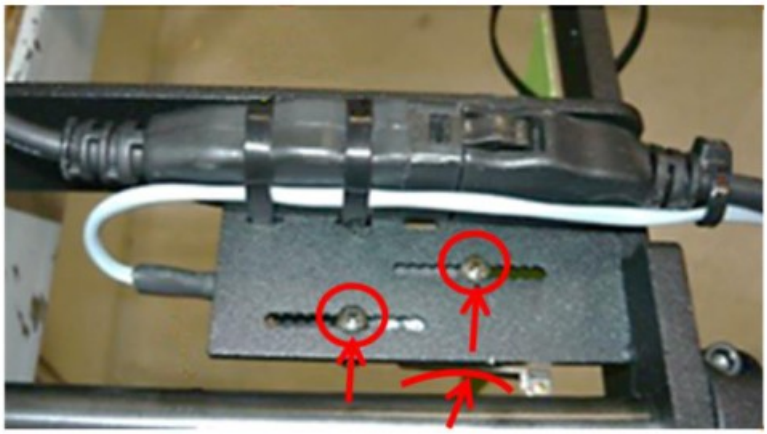
2. Replace the switch and tighten screws at the location previously noted. Recreate the same curve angle the lever had on the old one.
3. Reconnect the switch making sure to use terminal “COM” and “NO”



4. Move the power tilt. The drive lock-out switch should activate when the tilt reaches a 15° angle from seat pan to base.

Instructions using kit S-0205

1. After taking note of the location of each tie-wrap attaching the cable for the drive lock-out switch as well as its path, cut all tie-wraps. Disconnect the end of the drive lock-out switch cable that is connected to the controller (ISM, Solo, Duo)



2. After taking note of the location of each securing screw as well as the curve angle of the drive lock-out lever, unscrew all.
3. Replace the switch and tighten screws at the location previously noted. Recreate the same curve angle the lever had on the old one.
4. After attaching the switch cable to the tilt actuator extension cable as previously noted, connect the cable to the ISM controller.
5. Move the power tilt. The drive lock-out switch should activate when the tilt reaches a 15° angle from seat pan to base.

This completes the Instruction Guide on Replacing a Tilt Actuator & a Drive Lockout Switch. If further information is required, please contact Amylior Technical Support by email at techsupport@amylior.com or by phone at 1 888 453-0311.

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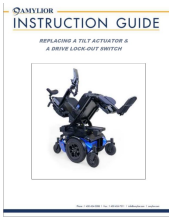
Documents / Resources

	AMYLIOR IG-P17008 Replacing A Tilt Actuator and A Drive Lock-Out Switch [pdf] Instruction Manual IG-P17008 Replacing A Tilt Actuator and A Drive Lock-Out Switch, IG-P17008, Replacing A Tilt Actuator and A Drive Lock-Out Switch, Drive Lock-Out Switch, Lock-Out Switch, Switch