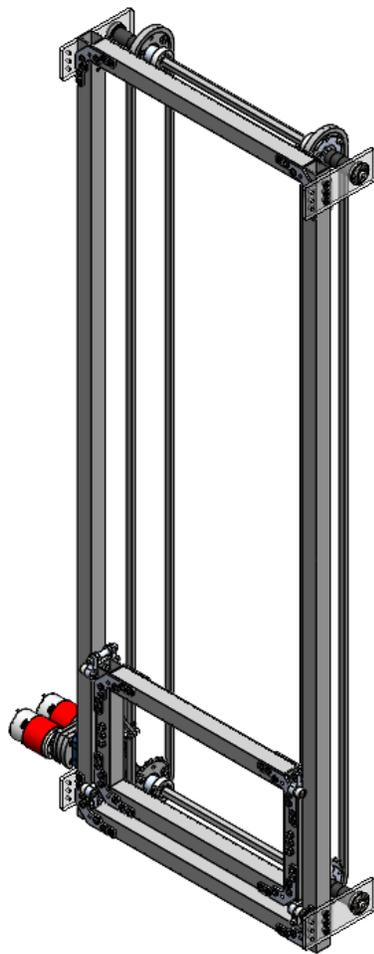


 **AndyMark**[®]
Compact Elevator Powertrain
Application Example



What is this document?

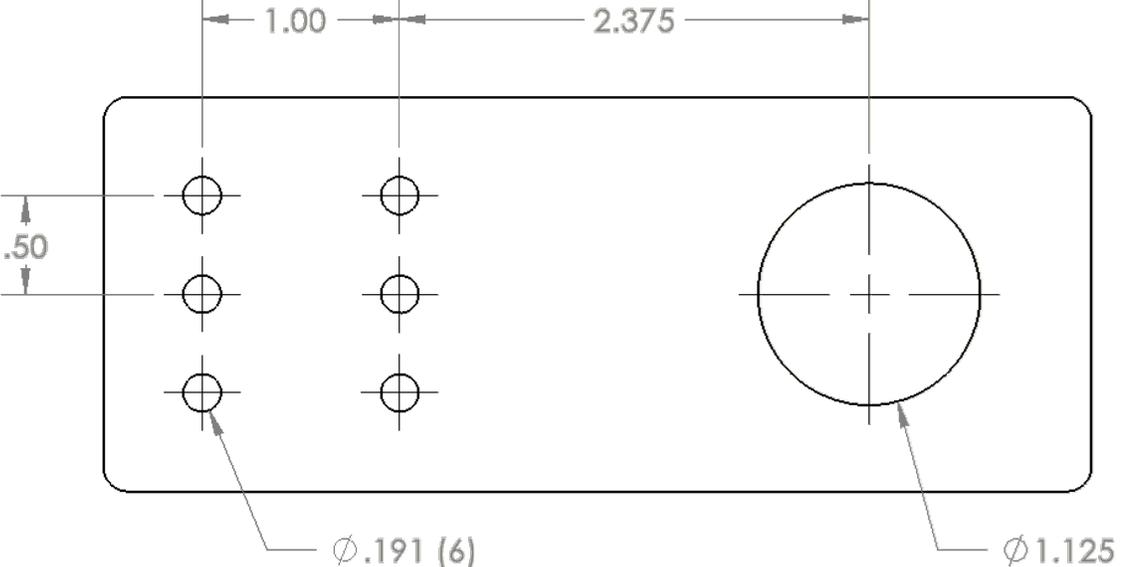
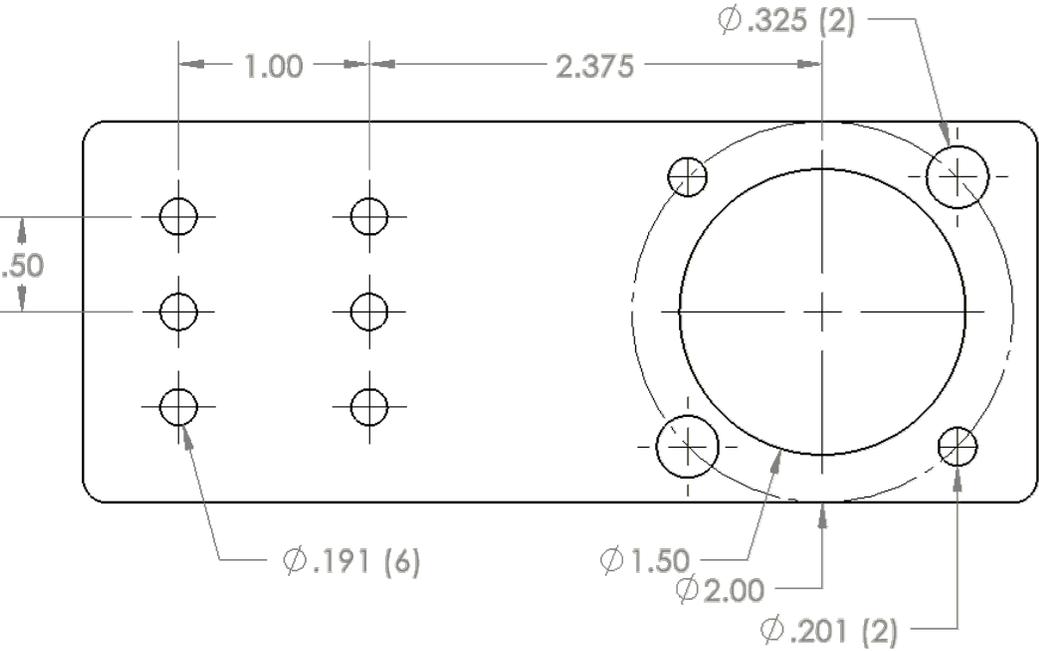
This document is an *Application Example* for the am-4873/am-4878 Compact Elevator Bearing and Structure Kits. The intention of this document is to provide users of the Compact Elevator an example of a powered single stage elevator. Many of the parts used in this example are available at AndyMark, but not all. Parts in this guide were selected for use based on a number of factors, including available stock levels as of January 2023 and ease of use. We expect teams will develop a variety of diverse solutions to use with this product, and this guide should be used as a springboard for creating what is most useful for you and your team.

Which parts are used in this document?

Several parts can be purchased at andymark.com, and are included in the following list.

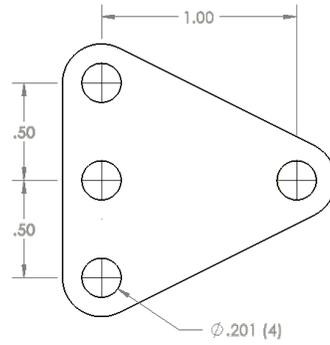
Part Description	Part Number	QTY
1 Stage 1x1 Compact Elevator Bearing and Structure Kit OR 1 Stage 2x1 Compact Elevator Bearing and Structure Kit	am-4873 OR am-4878	1
FR8ZZ ½" Hex Bearing	am-2986	3
½" Hex Extrusion	am-0856-3	2
3/16" Pop Rivets	am-1226	25
22T #35 Chain Sprocket	am-0216	4
½" Hex Hub	am-4124	4
0.5" Long 10-32 Socket Head Cap Screw	am-1002	12
10-32 Nylock Jam Nut	am-1063	18
#35 Chain	am-0367	10-30ft
½" Collar Clamp	am-1526	4
Sport Gearbox Female Output	am-3795	1
Dual 775 Sport Gearbox	am-4010	1
1" Long ½" Hex Spacer	am-3948-1000	3
0.5" Long ½" Hex Spacer	am-3948-500	4
0.375" Long ½" Hex Spacer	am-3948-375	3
0.25" Long ½" Hex Spacer	am-3948-250	1
0.063" Long ½" Hex Spacer	am-3948-063	1
1.5" Long 10-32 Socket Head Cap Screw	am-1014	6
0.625" Long 10-32 Socket Head Cap Screw	am-1549	2
#35 K-Link	am-4181_35	2
0.5" Long ¼-20 Button Head Cap Screw	am-1039	3
¼-20 Washer	am-1027	3
Redline Motor	am-3775a	2

The remaining parts in this guide are not currently available for sale, but can be created and modified for use by the user. These parts are shown in the published CAD model, and also detailed on the following pages. These parts are just one example of a part you can use for each application – feel free to create your own or use parts you already have access to.

QTY	Image
3	 <p style="text-align: center;">Bearing Mount Plate</p> <p>Mounts to the side of the compact elevator and provides a bearing support for the elevator drive shafts. There are additional holes included for mounting to a 2x1 elevator that are not used in the 1x1 elevator.</p>
1	 <p style="text-align: center;">Sport Mount Plate</p> <p>Mounts to the side of the compact elevator and allows for the mounting of an AM Sport Transmission to power the elevator. There are additional holes included for mounting to a 2x1 elevator that are not used in the 1x1 elevator.</p>



2



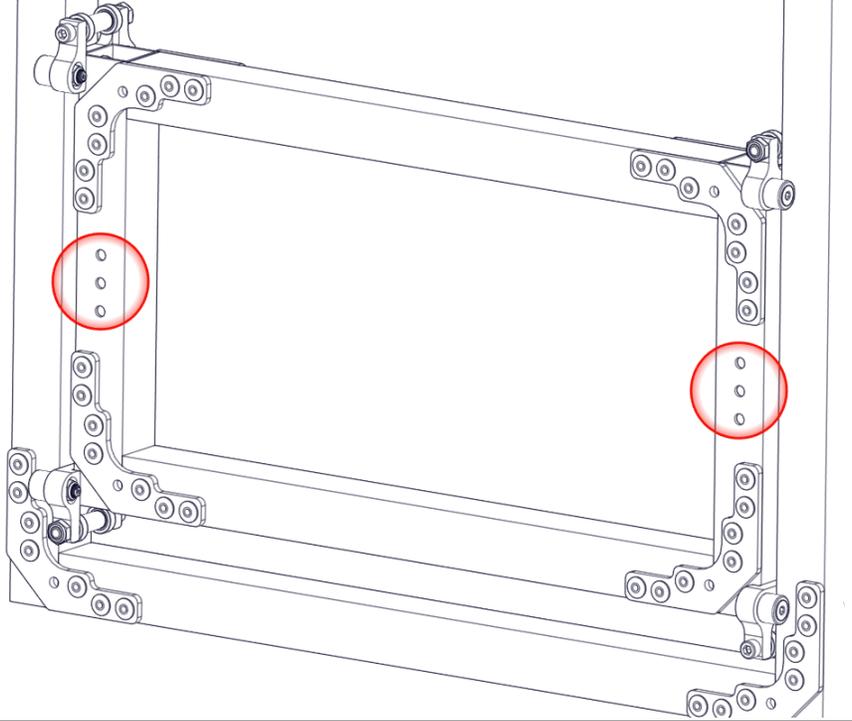
K-Link Attachment Bracket

Mounts to the inner carriage of the compact elevator and provides a connection point to the K-links in the #35 chain.

The remainder of this guide details the assembly of the example model beginning from the end of the Compact Elevator Assembly guides.

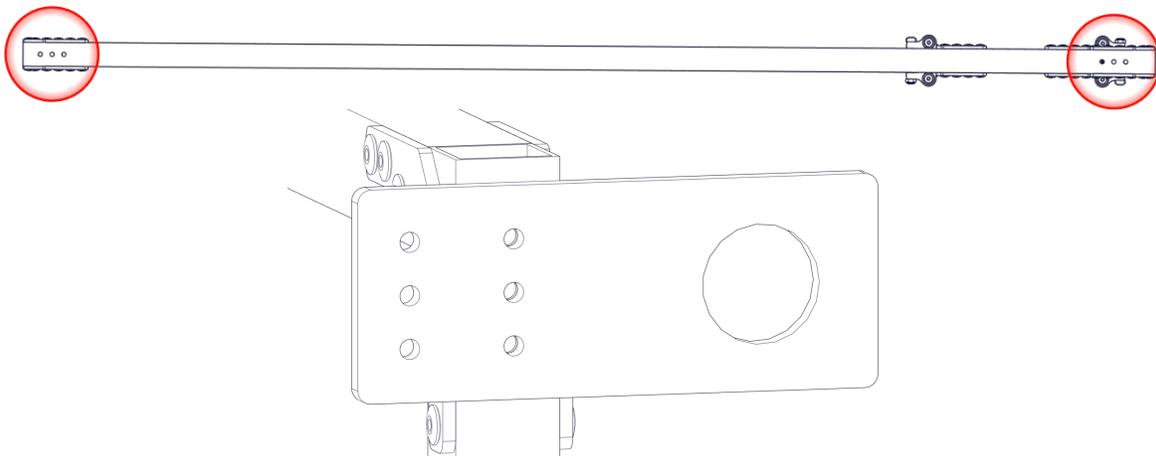
Step 1

Drill 0.201" mounting holes in the elevator's innermost carriage. They don't have to be centered in the carriage as pictured, so long as the holes are a large enough distance away from the top and bottom edges of the lift so as to enable the full range of travel. In this example, three holes are drilled 0.5" apart in order to mount the K-Link Attachment Plates.



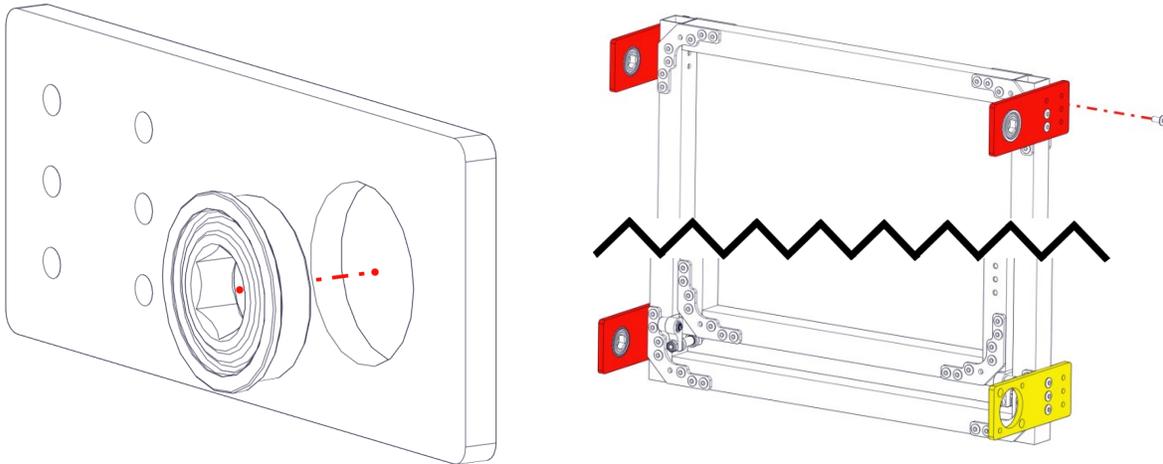
Step 2

Drill 0.191" holes in the top and bottom of the outermost tubes to mount the brackets that will support the elevator powertrain. If using the brackets shown, make sure the brackets are perpendicular to the upright tubes, and the center holes are spaced properly apart. This is the most important thing to get right during this process - making the holes the correct distance apart will ensure your chains are tight and the lift operates smoothly. To check your chain distance, you can use a [calculator like this one](#). This guide cannot provide a set distance because of the variable tube lengths.



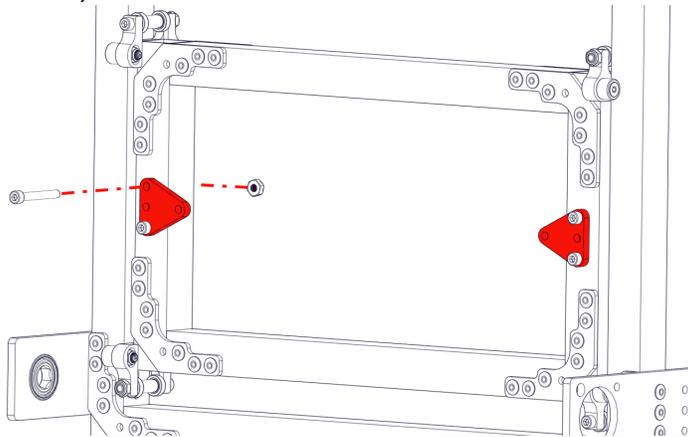
Step 3

Press hex bearings into the three bearing mounts. Attach the three bearing mounts and the Sport Mount to the attachment points you drilled in Step 2 using 3/16" pop rivets (am-1226). If you plan on lifting a very heavy load, you may want to use 10-32 bolts and nuts for this instead.



Step 4

Attach the K-Link Attachment Plates to the inner carriage using four 1.5" long 10-32 socket head cap screws (am-1014) as shown.



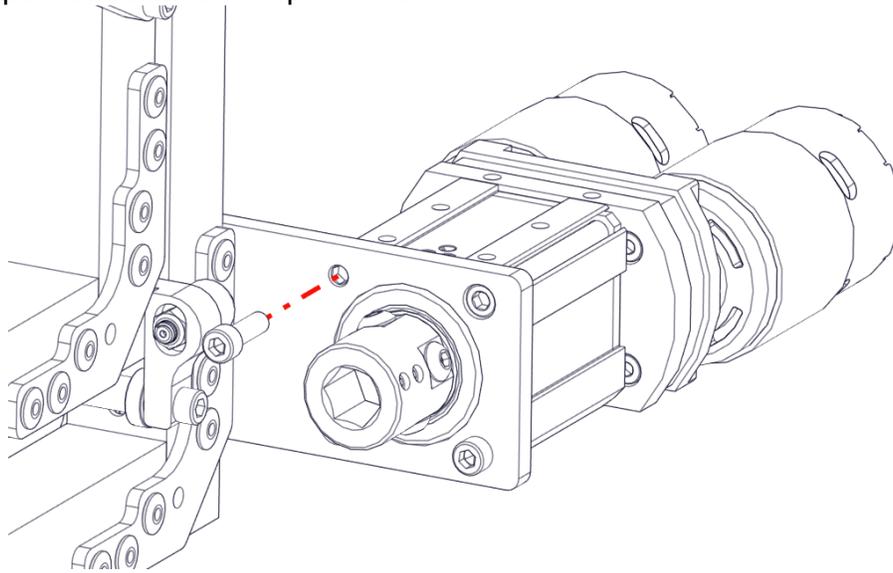
Step 5

Swap the output shaft of the Sport Gearbox (am-4010) with a Female-End Sport Gearbox output shaft (am-3795) by following the instructions in this guide. Attach the two Redline Motors (am-3775a).



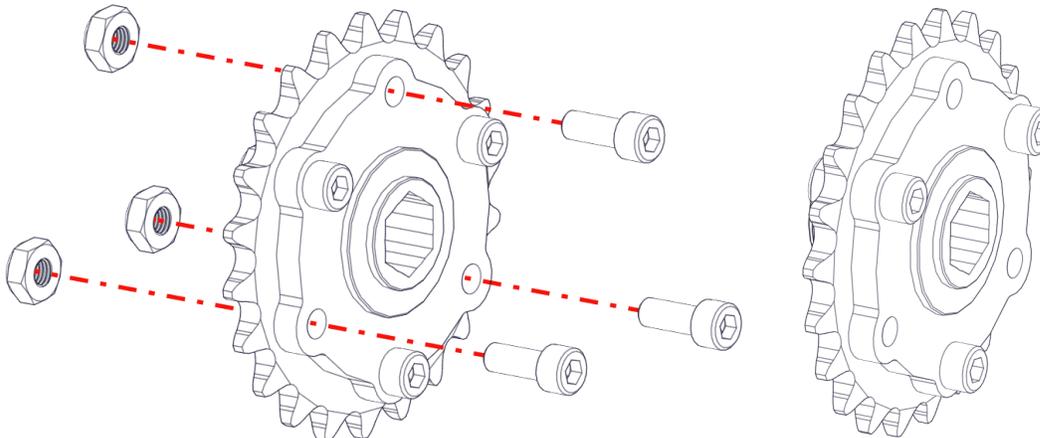
Step 6

Attach the Sport Gearbox to the Sport Mount Plate.



Step 7

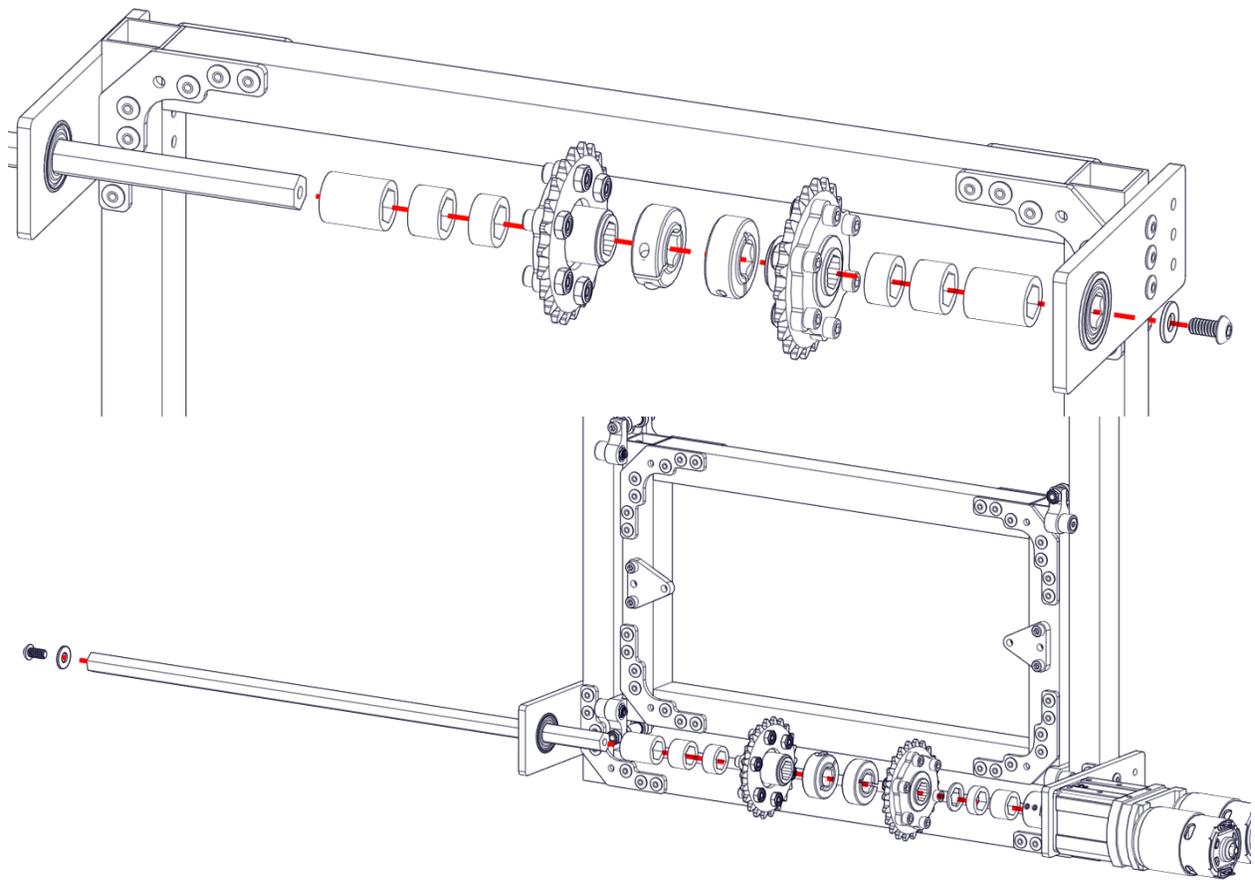
Prepare four Sprocket Assemblies by attaching four ½" hex hubs (am-4124) to the four 22T sprockets (am-0216) using at least three 0.5" long 10-32 screws (am-1002) and nylock jam nuts (am-1063) each.



Step 8

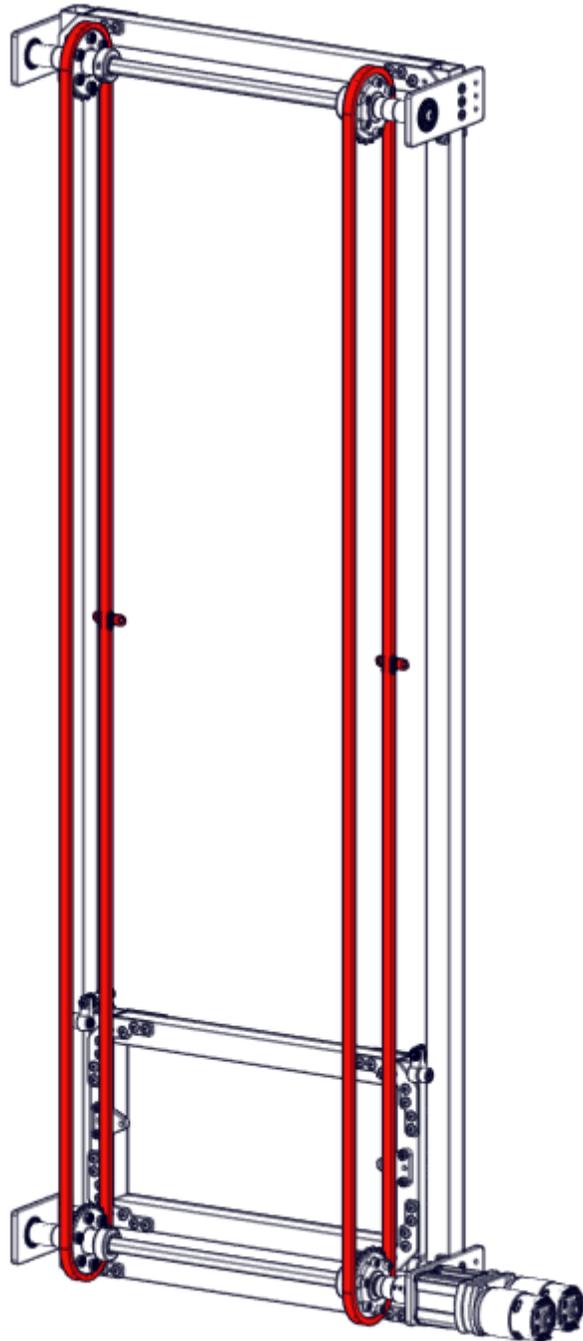
Slide the two hex shafts through the bearings on the side of the lift opposite the Sport Gearbox. On the hex shaft which will fit into the Sport Gearbox Female Output Shaft, slide the following items on in order: one 1" long hex spacer (am-3948-1000), one 1/2" long hex spacer (am-3948-500), one 3/8" long hex spacer (am-3948-375), one sprocket assembly as shown, two 1/2" hex collar clamps (am-1526), one sprocket assembly in the opposite orientation of the first, one 0.063" long hex spacer (am-3948-063), one 1/4" long hex spacer (am-3948-250), and one 1/2" long hex spacer (am-3948-500).

On the other hex shaft, slide the following items on in order: one 1" long hex spacer (am-3948-1000), one 1/2" long hex spacer (am-3948-500), one 3/8" long hex spacer (am-3948-375), one sprocket assembly as shown, two 1/2" hex collar clamps (am-1526), one sprocket assembly in the opposite orientation of the other, one 3/8" long hex spacer (am-3948-375), one 1/2" long hex spacer (am-3948-250), and one 1" long hex spacer (am-3948-1000). Secure both shafts in place with 1/4-20 button head cap screws (am-1039) and 1/4" washers (am-1027) as shown. Tighten the set screws on the female output shaft on the Sport Gearbox to secure the second hex shaft.



Step 9

Attach two chains (am-0367) by placing them on the sprockets, inserting the two K-links (am-4181_35) in the SAME POSITION on the chains relative to the lift assembly, and connecting the two ends of the chain together. To align the chains, it is recommended you place the K-links in a common spot (i.e. the top of the elevator) and simply place the chains in line. A [chain break tool](#) (am-4022) will be useful. Tighten the collar clamps to hold the Sprocket Assemblies in place.



Step 10

Connect the K-links to the K-Link Attachment Plates using two 1.5" long 10-32 screws (am-1014) and two 0.5" long 10-32 screws (am-1002). The powertrain for the Compact Elevator is now functional.

