Building a Elevator assembly (1002434)

Parts

- Main parts

Description	Item
Elevator Motor Mount	Drawing 1002434-001
Elevator Mount – Bottom	Drawing 1002434-002
Elevator Car - Base	Drawing 1002434-003
Elevator Car - Arm	Drawing 1002434-004
Extension Rod	Drawing 1002434-005
4 mm Shaft	Drawing 1002434-006
Elevator Lifter	Drawing 1002434-007
Belt Tensioner	Drawing 1002434-008
Belt Clamp	Drawing 1002434-009
Elevator Clamp - Top	Drawing 1002434-010
Elevator Clamp - Bottom	Drawing 1002434-011
Motor	Maxon 286442
Linear slide with cart	LWUL25C1R420BH/U
Nordex 4mm bearing (x2)	ABS-A7-40
15 Tooth Pulley (x2)	LS16T2.5/15-2,15x6 hub - modified w/ 4mm bore &
6mm belt, cut to size	6T2.5-2500m
Hall Sensor	

- Small parts

Qty	Size	Item
2	4mm	External retaining ring
4	SS1-104	W.M. Berg shaft spacers
1	#2-56 x 1 ¼”	Fully threaded rod
1	#2-56	Nylon insert nut
2	1/8” x ½”	Dowel pin
2	3/16” x 7/16”	Dowel pin
4	#4-40 x ¼”	Socket Head setscrew
2	#4-40 x 3/8”	Socket Head Cap Screw
2	#4	Spring Lockwasher
7	#5-40 x 3/8”	Socket Head Cap Screw
7	#5	Spring Lockwasher
1	#8-32 x ¾”	Socket Head Cap Screw
1	#8	Split ring Lockwasher
10	M2.5 x 6	Phillips Pan Head Screw
3	M2.5 x 6	Socket Head Cap Screw
7	M2.5 x 8	Socket Head Cap Screw

4	M2.5 x 10	Phillips Pan Head Screw
11	M2.5	Split ring Lockwasher
2	M3 x 6	Socket Head Cap Screw

Tools

- Open-end wrench 3/16”
- #2 Phillips head screwdriver
- External snap-ring pliers
- Hex keys—sizes:

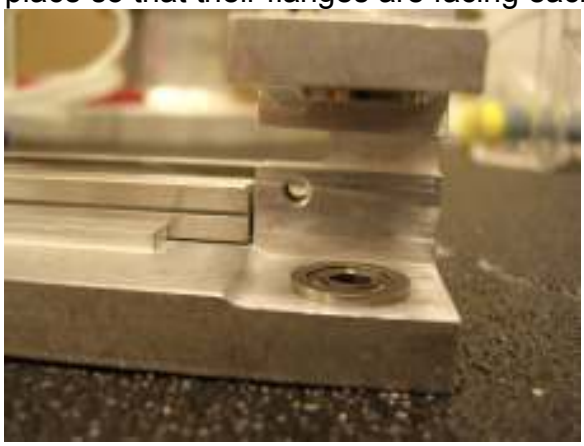
.050”
9/64”
2.0 mm
2.5 mm

Assembly

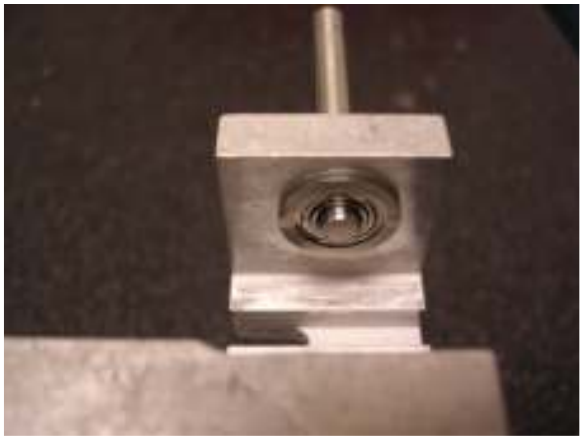
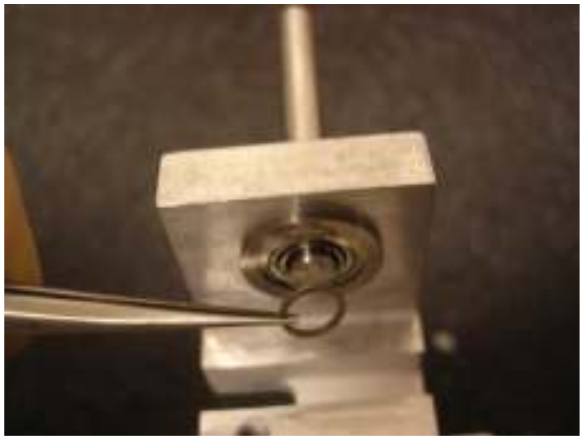
1. Connect the Linear Slide with cart to the Bottom Elevator Mount and to the Elevator Motor Mount using ten (10) M2.5x6 Phillips Pan head screws.

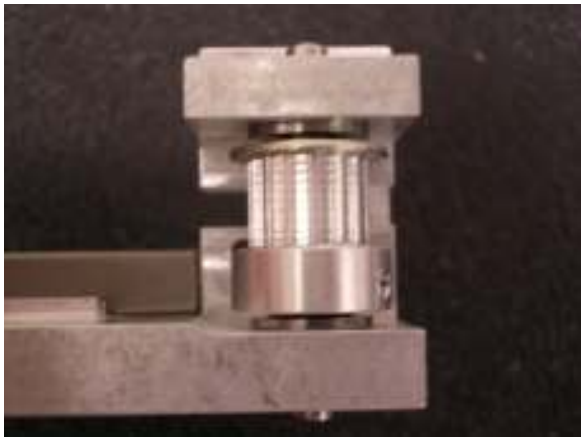

2. Attach the Top and Bottom Elevator Clamps to the Linear Slide assembly using the #5-40 x 3/8” SHCS’s.


3. Press two bearings into the Elevator Mount – bottom. Both bearings get pressed in place so that their flanges are facing each other, to the inside of the gear mount.

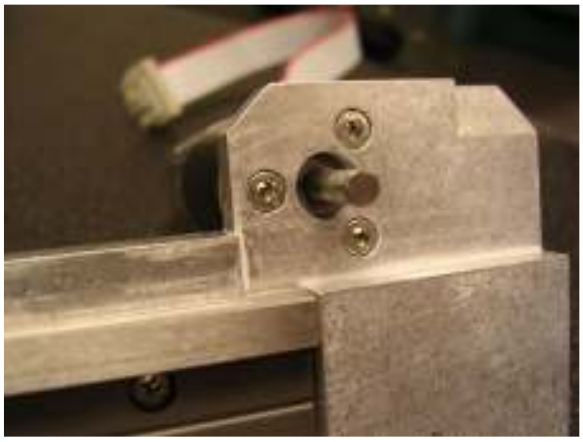



4. Insert the 4mm shaft into the top bearing, so that it protrudes slightly. Place a shaft spacer onto the shaft. Hold one of the 15 tooth pulleys under the shaft and start the shaft through the pulley. Insert another shaft spacer beneath the pulley, so that it is aligned with the shaft, and complete insertion of shaft through the pulley and out through the other bearing. Place another spacer on either end the shaft and secure with a retaining clips.



5. Attach the motor to the motor mount using three (3) M2.5 x 6 SHCS's.



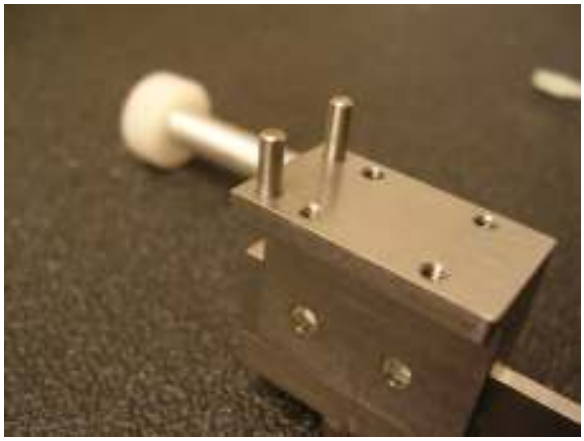
6. Slide the remaining pulley onto the motor shaft and loosely secure with a #4-40 x ¼" set screw.

7. Press two 1/8" dowel pins into the elevator car base.

8. Attach the elevator car arm onto the dowel pins, and secure with a #8-32 x 3/4” SHCS and lockwasher.

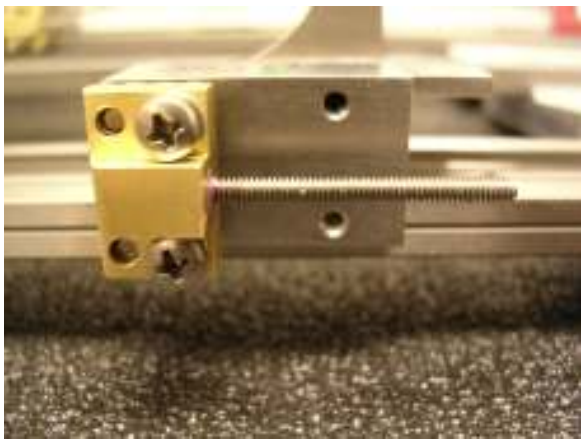
9. Screw the extension rod into the elevator car arm. Screw the elevator lifter to the other end of the extension rod.

10. Press two (2) 3/16” dowel pins into the other side of the elevator car base.



11. Secure the Elevator car base to the Linear Slide car using two (2) M3 x 6 SHCS's.

12. Attach the Elevator Belt Clamp onto the elevator car base dowel pins (From step 10) using M2.5 x 10 Pan Head screws with Spring Lockwashers. Thread the #2-56 x 1-1/4" fully threaded rod into the Elevator Belt Clamp.



13. Slide the Elevator Belt tensioner onto the threaded rod (From step 13) and loosely secure with M2.5 x 10 Pan Head screws with Spring Lockwashers. Loosely add a #2-56 Nylon insert nut to the exposed end of threaded rod.

14. Work the belt under the Belt clamp, around both pulleys and under the Belt Tensioner. Tension the belt using the #2-56 Nylock nut and then tighten the other screws.

15. Align the pulleys to center on the belt as it travels it's entire length, then tighten the pulley setscrews.

16. Attach the Hall effect sensor to the Elevator Bottom mount using the #4-40 x 3/8" SHCS with Spring Lockwashers.