Elevator Inline Bearing Block - User Guide (Rev 1)

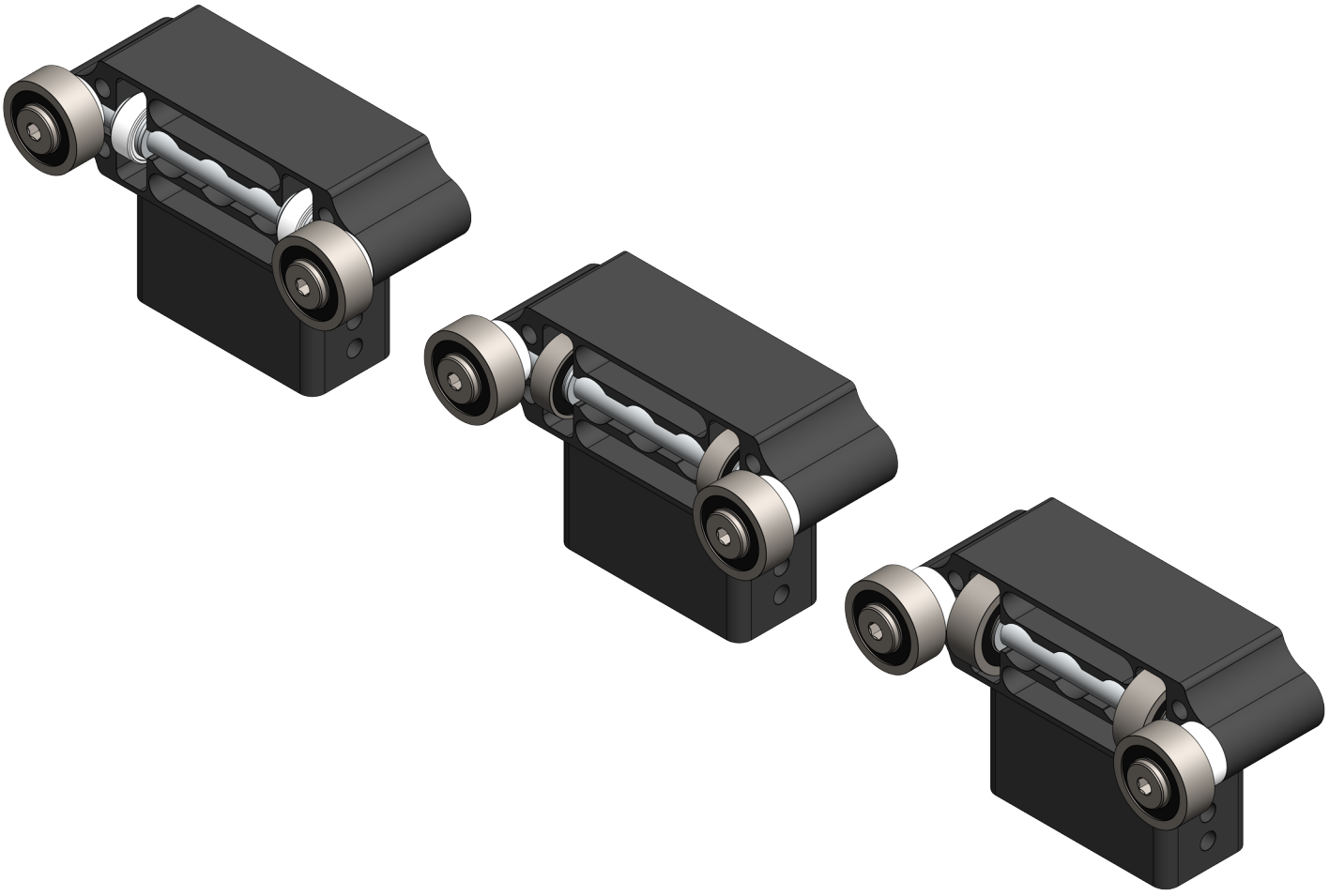

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Table of Contents

What is the Elevator Inline Bearing Block?

The new Elevator Inline Bearing Block simplifies the sliding element of FRC Elevators. Instead of requiring 4 gussets for each corner of each stage of the elevator, the Elevator Inline Bearing Block simplifies all those parts down to one easy to assemble block.

Notable features:

- Fewer parts and no plates.
- Compatible with 1/2”, 5/8”, and 3/4” OD bearings.
- Easy to assemble and maintain.
- Elevator stages can be assembled much closer together, wasting less space.

Recommended Tools

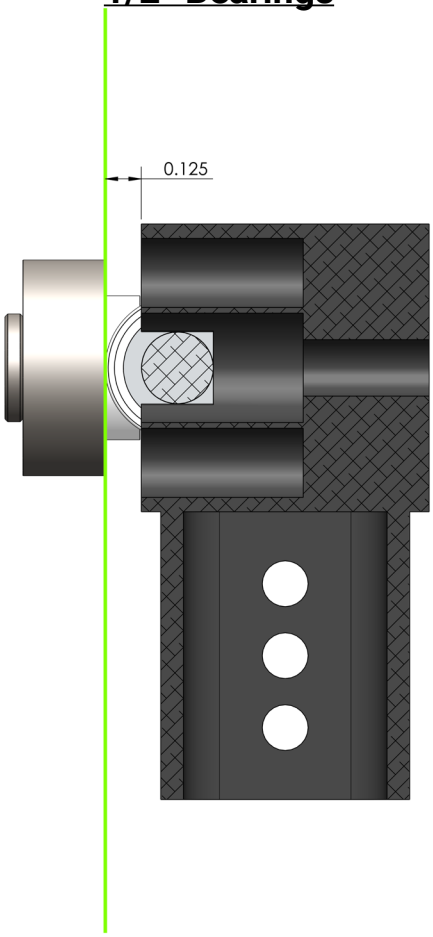
Picture	Name
	SAE/Inch Allen Set

Bearing Selection Guide

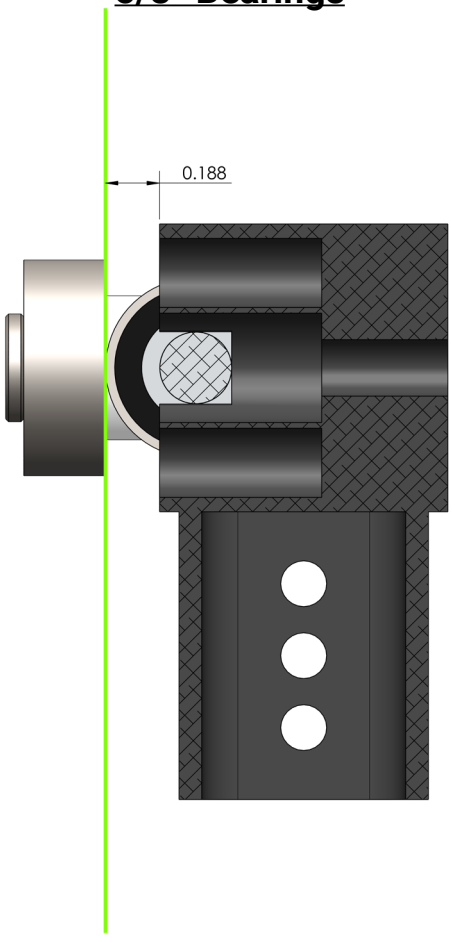
The three configurations of the WCP Elevator Block determine the distance between the vertical tubes of each elevator stage. This is shown in the images below, with the vertical tube represented in green.

Note: The WCP Elevator Block is only compatible with 1/16” wall tubing.

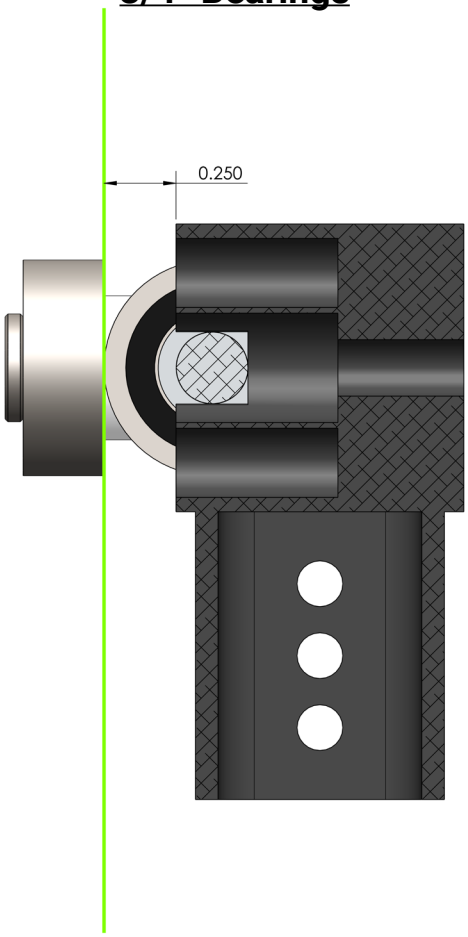
1/2” Bearings



5/8” Bearings



3/4” Bearings

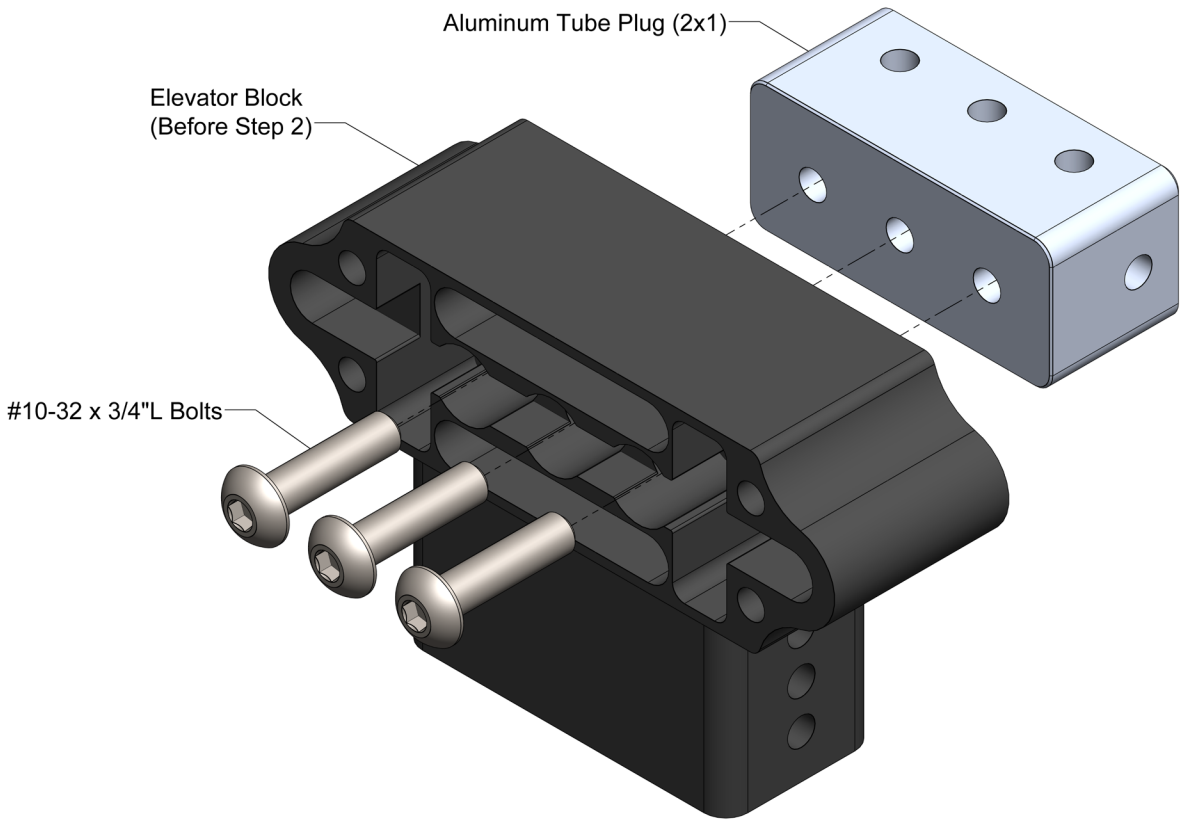


Mounting Example

The WCP Elevator Block is compatible with the 2x1 Aluminum Tube Plug (WCP-0374). This is ideal for the corners of an elevator carriage or the bottom tube connections for any intermediate elevator stages.

The Aluminum Tube Plug and Elevator Block must be bolted together before step two. The #10-32 x 3/4”L Bolts will sit in the 3/8” ID pocket underneath the Dowel Pin.

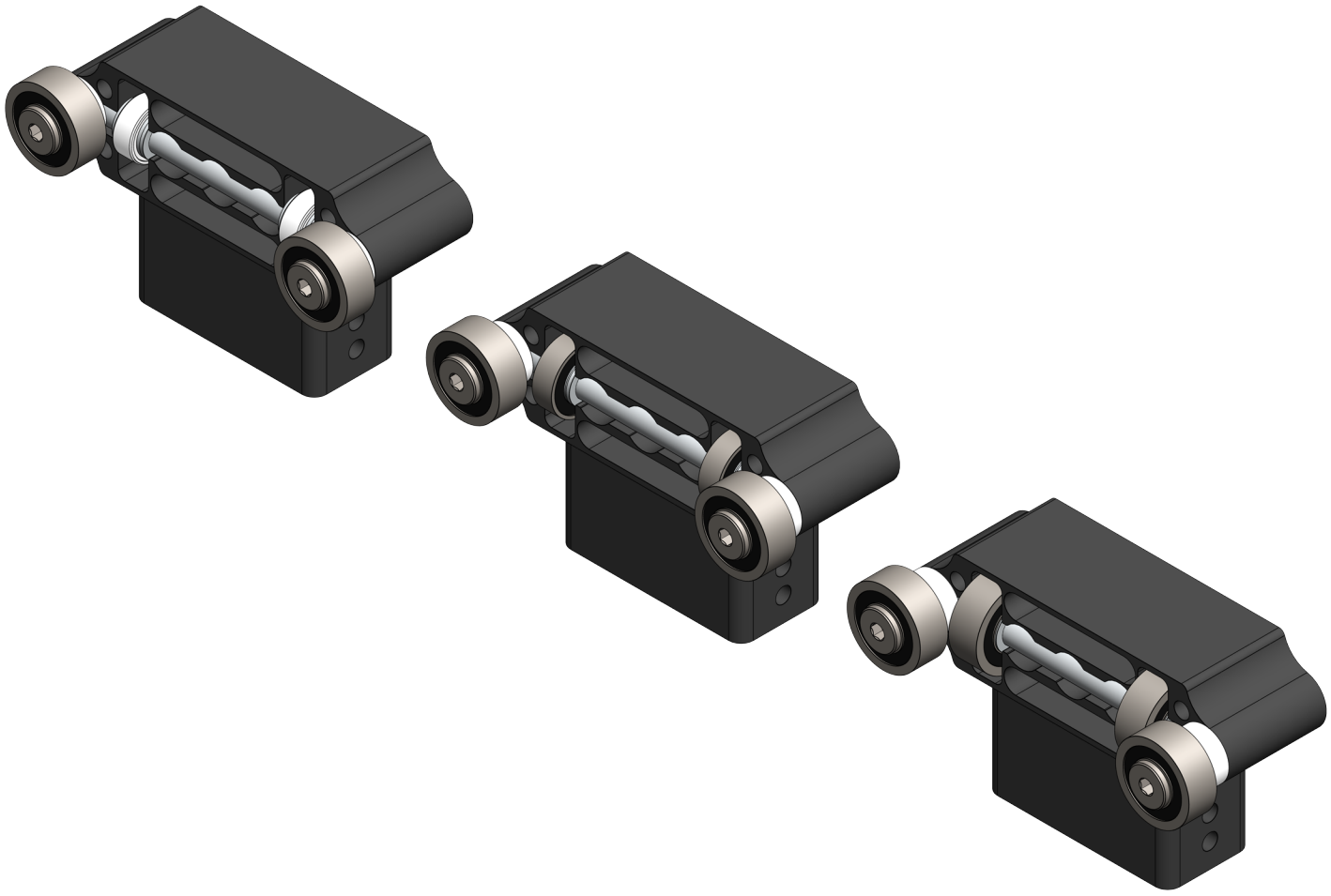
Note: For more information regarding this Mounting Example, see the Elevator Block Application Guides.



Assembly Instructions

The following pages show the General Assembly Instructions for the WCP Bearing Block. The appropriate images for the three configurations will be shown side by side.

Note: Blue Loctite (McMaster P/N 1004A12) is recommended on all bolts that thread into a tapped hole.



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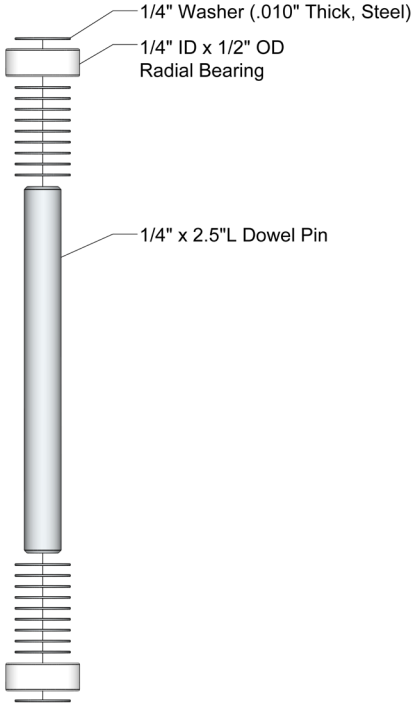
Step 1

Slide all the appropriate bearings and washers on to the Dowel Pin. The table below lists the number of washers used for each bearing configuration.

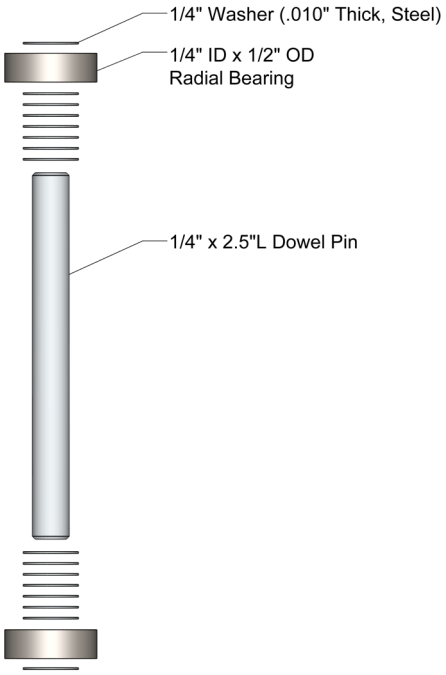
Note: If you are using 1/2” and 5/8” bearings instead of the standard 3/4” bearings, you can substitute in 0.03” washers to cut down on the part count.

Bearing Size	0.01” Washer QTY
1/2” OD	20
5/8” OD	18
3/4” OD	4

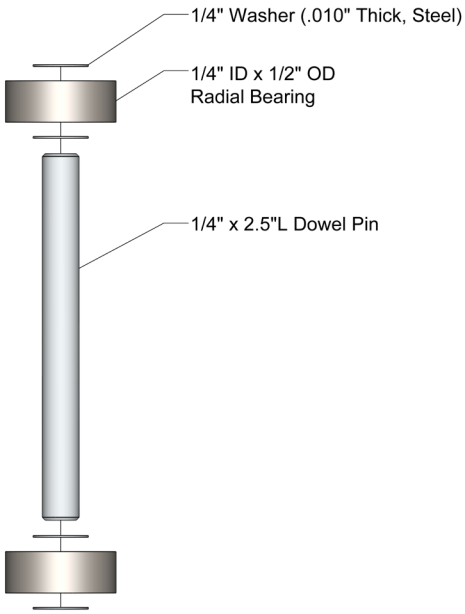
1/2” Bearings



5/8” Bearings



3/4” Bearings

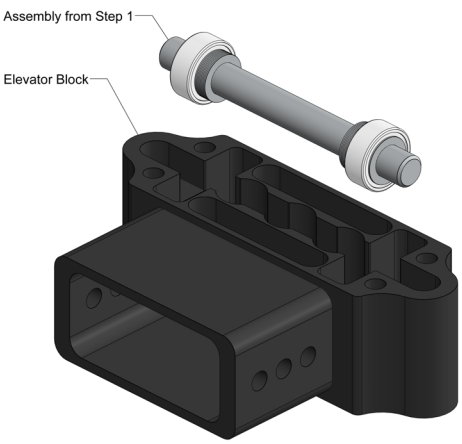


Step 2

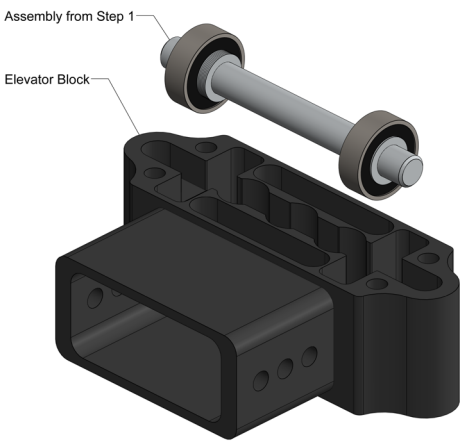
Slide the assembly from Step 1 into the Bearing Block. The bearing and washers should all fit in the slots on the block. The dowel pin will be constrained by the Shoulder Bolts and 3D Printed Spacers installed in Step 3.

Note: The bearings should be closest to the outside edge of the block.

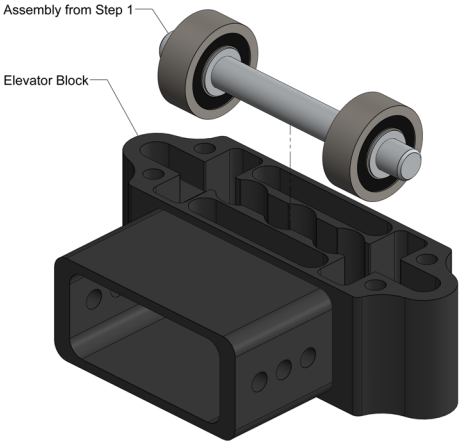
1/2” Bearings



5/8” Bearings



3/4” Bearings



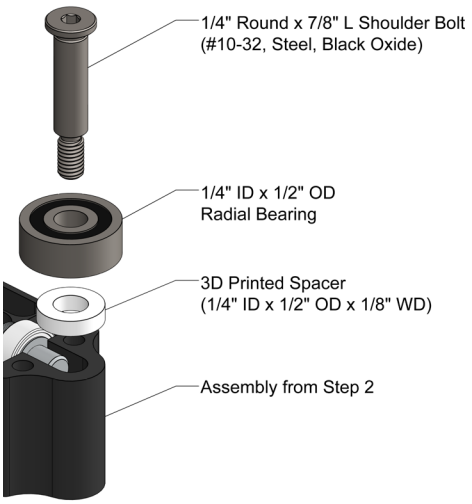
Step 3

Bolt the bearing and spacer stack-up to the block as shown in the images below. The sizes of the spacers required for each bearing configuration is listed in the table below.

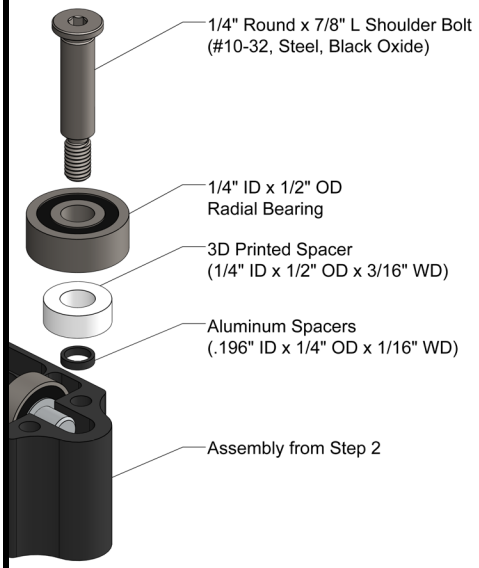
Note: The 1/2” Bearing Configuration does not require an Aluminum Spacer.

Bearing Size	3D Printed Spacer Length	Aluminum Spacer Length
1/2” OD	1/8”	N/A
5/8” OD	3/16”	1/16”
3/4” OD	1/4”	1/8”

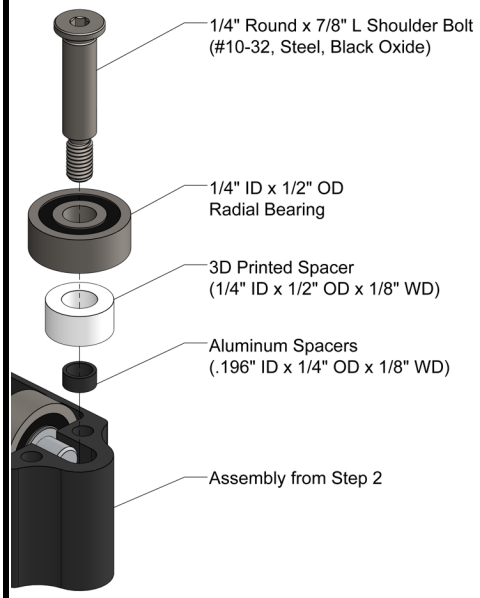
1/2” Bearings



5/8” Bearings



3/4” Bearings



Kit Contents

WCP-0199: Elevator Block

Part Number	Name	QTY
WCP-0199-001	Elevator Block	1
WCP-0199-002	Aluminum Spacers (.196" ID x 1/4" OD x 1/16" WD)	2
WCP-0199-003	Aluminum Spacers (.196" ID x 1/4" OD x 1/8" WD)	2
WCP-0199-004	1/4" x 2.5"L Dowel Pin	1
WCP-0474	1/4" Round x 7/8" L Shoulder Bolt (#10-32, Steel, Black Oxide) (2-Pack)	1
WCP-0251	#10-32 x .250" L BHCS (Steel, Black Oxide)	4
WCP-0212	0.250" ID x 0.750" OD x 0.282" WD (Radial Bearing)	4
WCP-0039	1/4" Washer (.010" Thick, Steel) (20-Pack)	1
WCP-0199-005	3D Printed Spacers (1/4" ID x 1/2" OD x 1/8" WD)	2
WCP-0199-006	3D Printed Spacers (1/4" ID x 1/2" OD x 3/16" WD)	2
WCP-0199-007	3D Printed Spacers (1/4" ID x 1/2" OD x 1/4" WD)	2

Revision Table

Revision Date	Revision #	Description
1/7/2022	1.0	First revision created.