

Item No.	ServoCity Part #	Description	Purpose	Length (ft) / Pack Size	Number	Quantity	Rate	Amount	Comments
Structural Components									
1	585466	24.0" Aluminum Channel	Provides the structure for the arm	24 in	1	1	\$16.99	\$16.99	For entire arm, predrilled holes for mounting and routing modified on long joint/ shaved down to increase joint angle.
2	585470	90° Dual Side Mount A	Changes mounting holes by 90°	2	10	5	\$5.99	\$29.95	
3	585504	90° Dual Side Mount C	Thinner for clearance	2	4	2	\$5.99	\$11.98	
4	585596	90° Dual Side Mount E	Struts for Humerus	2	6	3	\$5.99	\$17.97	
5	585720	3 Hole plate		1	3	3	\$1.99	\$5.97	
Joints									
6	585542	1/4" Bore Bottom Tapped Clamping Mount	Fixed rod attachment	1	6	6	\$5.99	\$35.94	bearing included
7	535150	1/4" Bore Bottom Tapped Pillow Block	Unfixed rod attachment	1	4	4	\$5.99	\$23.96	
8	545620	1" side mount clamp		1	1	1	\$5.99	\$5.99	
9	545662	21mm clamp		1	1	1	\$5.99	\$5.99	
10	634174	1/4" Stainless Steel Precision Shafting	Rod	9"	3	2	\$3.19	\$6.38	
Screws & Spacers									
11	633164	1/4" OD Aluminum Spacers for #6 Screw Size	Spacing Out Joint	4	10	3	\$1.29	\$3.87	Need to be modified to 0.80"
12	633169	7/8" OD Aluminum Spacers for #6 Screw Size	Spacing Out Joint	4	4	1	\$1.79	\$1.79	
13	585474	Single Screw Square Nut	For securing non threaded pieces	24	16	1	\$4.99	\$4.99	
14	632106	6-32 Zinc-Plated Socket Head Machine Screws 1/4"	Attaching Side Mounts	25	46	2	\$1.89	\$3.78	
15	632108	6-32 Zinc-Plated Socket Head Machine Screws 5/16"		25	4	1	\$1.99	\$1.99	
16	632110	6-32 Zinc-Plated Socket Head Machine Screws 3/8"	Attaching Mounts w/ Spacer, Clamps, Pillows	25	14	1	\$2.09	\$2.09	
17	632112	6-32 Zinc-Plated Socket Head Machine Screws 7/16"		25	26	2	\$2.29	\$4.58	
18	632132	6-32 Zinc-Plated Socket Head Machine Screws 1.5"	Long reach joints	25	4	1	\$4.19	\$4.19	
				Total Cost of Parts (as of June 16th, 2019):				\$188.40	(Excludes shipping and tax)
							Education Discount:	\$28.26	(For doing a project with a University)
							Tax:		
							Shipping:		
							Total:	\$160.14	
Item No.	McMaster Part #	Description	Purpose	Length (ft) / Pack Size	Number	Quantity	Rate	Amount	Comments
Rotation Joint									
1	7815K49	Flanged Sleeve Bearing 3/4" Shaf/ 1" Housing ID/ 1" Long	radial/thrust torque, support weight of arm	1	1	1	\$5.93	\$5.93	
2	8978K19	3/4" Aluminum Tubing, .065" thick		12"	1	1	\$7.67	\$7.67	
3	1378N320	Crossed Roller Bearing	Radial/thrust/moment torques	1	1	1	\$151.47	\$151.47	
Shoulder Mount									
19	6546K42	Aluminum Rectangular Tubes 2"x 4", 1/8" thick	Multisurface planar mount for shoulder	6"	1	1	\$13.57	\$13.57	need 4" piece
20	6383K214	Flanged Ball Bearing, 1/4" shaft	For mounting shoulder to mount	1	2	2	\$5.58	\$11.16	
Hand Hardware									
21	90742A121	Aluminum Screw-to-Expand Inserts for Plastic M3	For hand connection	25	13	1	\$6.14	\$6.14	M3 x 6mm
				Total Cost of Parts (as of June 16th, 2019):				\$195.94	(Excludes shipping and tax)
							Tax:		
							Shipping:		
							Total:	\$195.94	
				Without Education Discount		With Education Discount			
				Total	\$384.34	Grand Total:	\$356.08		
				Total w/out bearing	\$232.87	w/out bearing	\$204.61		

This Page breaks down the parts needed for each variation of the arm.

Humerus					Proximal Forearm	short	long
Channel	10.4"				90° Dual Side Mount A	4	4
90° Dual Side Mount E	6				1/4" spacer	6	6
1/4" Bore Bottom Tapped Pillow Block	2				.8" spacer	4	4
90° Dual Side Mount C	2				1/4" Bore Bottom Tapped Clamping Mount	2	2
1/4" Bore Bottom Tapped Clamping Mount	2				1.5" screw	4	4
90° Dual Side Mount A	2				1/4"rod	2.7"	2.7"
1/4" spacer	4				7/16" screw	6	6
1/4"rod	2.7"				1" side mount clamp	1	2
7/16" screw	8				Multipurpose Flanged Sleeve Bearing for 3/4" Shaft Diameter and	1	2
3/8" screw	4				crossed roller bearing	1	1
1/4" screw	16				1/4" screw	4	8
					1/4" screw	2	
					washer	2	
wrist	2 DOF	1 DOF			distal forearm	servo break/empty	full
1/4" Bore Bottom Tapped Pillow Block	2	0			3/4 pipe 8978K19 v1	6"	6"
3 hole plate	1	1			21mm clamp	1	2
1/4" Bore Bottom Tapped Clamping Mount	2	2			rubber gasget	1	1
rod	2.5" x 2	2.5"			90° Dual Side Mount A	4	
1 hole plate/ 45 plate	1	0			1/4" Bore Bottom Tapped Pillow Block	2	
3/8" screw		4			3 hole plate	2	
7/16"		4			washer	10	
washers		4			3/8" screw	6	
					1/4" screw	24	
					5/16" screw	4	for pillowblocks
					7/16" screw	8	
					90° Dual Side Mount C	2	

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2	585470	90° Dual Side Mount A	Changes mounting holes by 90°	(2 pack)	4	\$5.99	\$23.96	
3	585504	90° Dual Side Mount C	Thinner for clearance	(2 pack)	2	\$5.99	\$11.98	
Joints								
4	585542	1/4" Bore Bottom Tapped Clamping Mount	Fixed rod attachment	1	4	\$5.99	\$23.96	bearing included 2.7" pieces needed per joint
5	535150	1/4" Bore Bottom Tapped Pillow Block	Unfixed rod attachment	1	6	\$5.99	\$35.94	
6	634174	1/4" Stainless Steel Precision Shafting	Rod	9"	1	\$3.19	\$3.19	
Screws & Spacers								
7	633164	1/4" OD Aluminum Spacers for #6 Screw Size	Spacing Out Joint	1/4" (4/pack)	3	\$1.29	\$3.87	Need to be modified to 0.80"
8	633169	1/4" OD Aluminum Spacers for #6 Screw Size	Spacing Out Joint	7/8" (4/pack)	1	\$1.79	\$1.79	
9	632106	6-32 Zinc-Plated Socket Head Machine Screws 1/4"	Attaching Side Mounts	(25 pack)	1	\$1.89	\$1.89	
10	632110	6-32 Zinc-Plated Socket Head Machine Screws 3/8"	Attaching Mounts w/ Spacer, Clamps,	(25 pack)	1	\$2.09	\$2.09	
11	632132	6-32 Zinc-Plated Socket Head Machine Screws 1.5"	Long reach joints	(25 pack)	1	\$4.19	\$4.19	
Total Cost of Parts (as of June 16th, 2019):							\$129.85	(Excludes shipping and tax)
Education Discount:							\$19.48	(For doing a project with a University)
Tax:								
Shipping:								
Total:							\$110.37	
Simple Forearm/Humerous 2 link 2 joint system, no wrist								