

BILL OF MATERIALS

Team Name: Team Nugget
 Project Title: Hands-Free Door Opener
 Date: 3/2

Item No.	Part No.	Part Name	Units	Qty	Material / Description	Source	Catalog No.	Unit Cost (\$)	Unit Processing Cost (\$)	Assembly Cost (\$)	Line Total Cost (\$)	List Price (\$)	Explanation
0100	0101	Pressure plate	m*m	1	Aluminum Alloy / Where people will st	Custom	N/A	0.82	0	0.1	0.92	3.28	
Pressure plate triggering and force transformation	0102	Spring	N/m, pcs	2	stainless spring steels / reset the pressur	The Spring Stor	PC060-296-350	0.46	0	0.1	1.02	1.84	
	0103	Fluid Bag	in^2	1	Rubber / Shoots the fluid out due to the	Custom	N/A	7.26	1.5	0.1	8.86	29.02	
	0104	Long tube	ft	1	Rubber / transfer fluid to top	Lowe's	Item #814315	1.89	0	0.1	1.99	7.55	
	0105	Hydraulic Fluid	Liters	4.68	mineral-based fluids / transfer the force	Grainger	DTE 24	2.81	0	0.1	13.24	11.23	
0200	0201	Main casing	m*m*m	1	stainless steels / hold the components	Custom	N/A	1.68	5	0.1	6.78	6.71	
Door opening	0202	Main casing screws	pcs	4	stainless steels / connect to the door	Grainger	G2584	0.01	0	0.1	0.13	0.03	
	0203	Piston pack - arm	pcs	1	stainless steels / push the gear rack	Custom	N/A	0.15	3	0.1	3.25	0.60	
	0204	Piston pack - cylinder	pcs	1	stainless steels / hold the arm and the fl	Custom	N/A	0.79	3	0.1	3.89	3.17	
	0205	Piston pack - seal ring	mm	1	Rubber / seal the fluid	Shadow Trailer	#DBC-225-SEA	1.00	0	0.1	1.10	3.99	
	0206	Piston pack - screws	pcs	3	stainless steels / secure the cylinder to c	Grainger	G2584	0.01	0	0.1	0.12	0.03	
	0207	Piston pack - nut	pcs	3	stainless steels / secure the screws	Grainger	447J35	0.80	0	0.1	2.51	3.22	
	0208	Gear rack	mm	1	stainless steels / transfer linear motion	McMaster-Carr	2485N242	5.39	0	0.1	5.49	21.54	
	0209	Large gear	pcs	1	stainless steels / transfer linear motion t	McMaster-Carr	5172T16	10.73	0	0.1	10.83	42.92	
	0210	Main shaft	mm	1	stainless steels / transfer the force from	Custom	N/A	0.11	2	0.1	2.21	0.45	
	0211	Rotational Pushing Arm	pcs	2	stainless steels / rotate and push the doc	Custom	N/A	0.14	2	0.1	2.39	0.57	
	0212	Connecting pin	mm	2	stainless steels / connect the arms toget	Custom	N/A	0.01	2	0.1	2.12	0.03	
	0213	Door frame mount case	pcs	1	stainless steels / allows the arm connect	Custom	N/A	0.71	5	0.1	5.81	2.82	
	0214	Door frame mount Screw	pcs	4	stainless steels / secure the case	Grainger	G2584	0.01	0	0.1	0.13	0.03	
	0300	0301	Small gear	pcs	1	stainless steels / drive the slowing devic	McMaster-Carr	5172T12	6.72	0	0.1	6.82	26.88
Door Closing	0302	Fluid tank	pcs	1	stainless steels / hold the liquid	Custom	N/A	5.12	5	0.1	10.22	20.48	
	0303	Shaft	mm, pcs	1	stainless steels / drive the drag fin bars	Custom	N/A	0.11	2	0.1	2.21	0.45	
	0304	Drag fins	pcs	4	stainless steels / create drag in fluid	Custom	N/A	0.04	2	0.1	2.27	0.17	
	0305	Fin bars	pcs	4	stainless steels / hold the fins together a	Custom	N/A	0.95	4	0.1	7.88	3.78	
	0306	Long screws	pcs	2	stainless steels / adjust the height of the	Grainger	6JA46	0.07	0	0.1	0.23	0.26	
	0307	Nut	pcs	2	stainless steels / hold the screws	Grainger	22UK82	0.00	0	0.1	0.11	0.02	
	0308	Spring	N/m, pcs	2	stainless spring steels / secure the tank c	The Spring Stor	PC060-296-350	0.30	0	0.1	0.70	1.20	
	0309	Drag Fluid	Liters	4.68	mineral-based fluids / source of drag	Grainger	DTE 24	2.85	0	0.1	13.45	11.41	
0400	0401	Final Assembly	-	1	Final assembly of all parts	-	-	-	-	5.00	5.00		
Assmeblies	0402	Pressure plate assy	-	1	Assembly of the step plate	-	-	-	-	3.00	3.00		
	0403	Door opening assy	-	1	Assembly of door opening mechanism	-	-	-	-	3.50	3.50		
	0404	Door closing assy	-	1	Assembly of dor closing mechanism	-	-	-	-	3.50	3.50		

Total Purchased Parts \$	58.57
Total Custom Manufactured Parts \$	58.80
Total Assembly Cost \$	15.00

Total Cost \$	131.67
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