

## Parts for Sandwich the Line Follower and Printed Circuit Board

Updated 5/17/10

Part Description	Source	Part #	Unit Cost	Quantity	Total Cost	Notes
<b>Electronics:</b>						
Yellow LED's	Electronics Express	08L53YD	\$0.08	6	\$0.48	Purchased in quantities of 100+
Green LED's	Electronics Express	08L53GD	\$0.07	3	\$0.21	Purchased in quantities of 100+
4500 mcd White LED's	Electronics Express	08WVUW51	\$1.60	4	\$6.40	Purchased in quantities of 10+
1N5817 Schottky Diode	Jameco	177949	\$0.10	2	\$0.20	Purchased in quantities of 10-99
150 Ohm Resistor	Electronics Express	13.55150	\$0.03	4	\$0.12	Purchased in quantities of 200-999
1k Ohm Resistor	Electronics Express	13.551K	\$0.03	2	\$0.06	Purchased in quantities of 200-999
25k Ohm Tripot w/ Shaft	Electronics Express	18STS25K	\$0.80	2	\$1.60	Purchased in quantities of 10-99
Photoresistors Sensors	Jameco	120299	\$1.59	4	\$6.36	Purchased in quantities of 10-99
DPDT Switch	Jameco	22841	\$1.45	1	\$1.45	Purchased in quantities of 1-9
Power Switch	Radioshack	275-693	\$2.99	1	\$2.99	
2N2907A Transistors	Jameco	178520	\$0.05	2	\$0.10	Purchased in quantities of 10-99
8-Pin DIP Socket	Jameco	112206	\$0.13	1	\$0.13	Purchased in quantities of 10-99
LM393N Comparator	Jameco	24281	\$0.22	1	\$0.22	Purchased in quantities of 10-99
Printed Circuit Board	Solarbotics	SandPCB	\$12.00	1	\$12.00	
1/8" Heat Shrink Tubing, Yellow	Digi-Key	FP332-Y-5-ND	\$0.35	1	\$0.35	Purchased in 5' lengths
3/32" Heat Shrink Tubing, Green	Digi-Key	FP332-G-5-ND	\$0.35	1	\$0.35	Purchased in 5' lengths
3/32" Heat Shrink Tubing, Red	Digi-Key	FP332-R-5-ND	\$0.35	1	\$0.35	Purchased in 5' lengths
3/32" Heat Shrink Tubing, Black	Digi-Key	FP332-K-5-ND	\$0.35	1	\$0.35	Purchased in 5' lengths
3/32" Heat Shrink Tubing, White	Digi-Key	FP332-W-5-ND	\$0.35	1	\$0.35	Purchased in 5' lengths
Molex KK Two-Pin Headers	Digi-Key	WM4200-ND	\$0.185	5	\$0.93	Purchased in quantities of 100+
Molex KK Two-Pin Housings	Digi-Key	WM2000-ND	\$0.1271	5	\$0.64	Purchased in quantities of 100+
Molex KK Four-Pin Header	Digi-Key	WM4202-ND	\$0.3097	1	\$0.31	Purchased in quantities of 100+
Molex KK Four-Pin Housings	Digi-Key	WM2002-ND	\$0.226	1	\$0.23	Purchased in quantities of 100+
Molex KK Crimp Terminals	Digi-Key	WM1114-ND	\$0.1361	20	\$2.72	Purchased in quantities of 100-499
Crimping Tool	Digi-Key	WM9999-ND	\$50.75	1	-	Not included in unit costs
Wire, #22 AWG	-	-	-	-	-	Not included in unit costs
9 Volt Battery Snap	Jameco	216452	\$0.32	2	\$0.64	Purchased in quantities of 10-99
9 Volt Battery	Home Depot	-	\$2.50	0	\$0.00	Purchased in quantities of 4
<b>Motors:</b>						
Gearhead Motor, HNGH12-1324Y-R	Jameco	162191	\$15.95	2	\$31.90	Purchased in quantities of 5-24
<b>Body &amp; Hardware:</b>						
Gladware Container	Grocery Store	3 1/8 Cup	\$0.60	1	\$0.60	Purchased in quantities of 5
M&Ms with 150mm Long Candy Tube	Grocery Store	-	\$1.29	1	\$1.29	Hard to find
9 Volt Battery Clip	Jameco	105794	\$0.32	1	\$0.32	Purchased in quantities of 10-99
#6 x 1" Long Nylon Round Spacer	Small Parts	RSN-06/16	\$0.59	5	\$2.95	Purchased in quantities of 25
#6 x 1 3/8" Stainless Steel Screw	Small Parts	B000FN3R1Q	\$0.044	5	\$0.22	Purchased in quantities of 100
#6/32 Nylon Insert Nut	Small Parts	HLNX-0632-C	\$0.0523	5	\$0.26	Purchased in quantities of 100
M2.5x6mm S/S Machine Screw	Small Parts	B000FN5VKG	\$0.0481	5	\$0.24	Purchased in quantities of 100
M2.5 Nylon Flat Washer	Small Parts	WN-M025-C	\$0.035	10	\$0.35	Purchased in quantities of 100
Wheels, Large Lawn Tire & Hub	Pitsco	Discontinued	\$2.50	2	\$5.00	Purchased in quantities of 4
#6-Stud Axle	Pitsco	970614	\$0.20	1	\$0.20	Purchased in quantities of 50
Wheel Couplings 1/2" Aluminum Stock	Homemade on Lathe	-	\$0.50	2	\$1.00	
<b>Total:</b>					<b>\$83.85</b>	Costs exclude shipping & sales tax

**Source List:**

Vendor Name	Website	Telephone	Notes:
Digi-Key	digikey.com	800-344-4539	\$5 Handling fee on orders < \$25
Electronics Express	elexp.com	800-972-2225	\$20.00 Minimum order
Jameco	jameco.com	800-831-4242	\$20.00 Minimum order over phone
Pitsco	legoeducation.com	800-358-4983	No Minimum
RadioShack	radioshack.com	800-843-7422	No Minimum
Small Parts	smallparts.com	800-220-4242	\$20.00 Minimum order over phone
Solarbotics	solarbotics.com	866-276-2687	No Minimum