

## **Chapter 7**

### **Appendix B: *Parts***

## 7.1 Part's List for the Mechanical Base

The table has the list of parts for the mechanical base:

Qty	Description	Fig.	Supplier	Supplier #
8	Bolts – Brass – Flat Head 1/2" Wood Screw	A	McMaster Carr	92114A081
2	Bolts – Metal 10-24 Pan Head 3/8" Standard	B	McMaster Carr	90279A240
4	Bolts – Metal 4-40 Flat Head 1/2" – Sheet	C	McMaster Carr	90048A110
4	Bolts – Metal 4-40 Flat Head 5/8" Standard	D	McMaster Carr	90273A112
4	Bolts – Nylon 8-32 Pan Head 3/8" Standard	E	McMaster Carr	94609A192
2	Nuts – Metal 10-24	F	McMaster Carr	90480A011
8	Nuts – Metal 4-40	G	McMaster Carr	90480A005
4	Nuts – Nylon 8-32	H	McMaster Carr	94812A114
1	Metal Base v1.03	I	TekBots	base.1
1	Plexiglass Level v1.03	J	TekBots	base.1
2	GMW GM-* Wheel Adapters	K	TekBots	GMW
2	GM-8 Motors	L	Solarbotics	GM-8

Fig. A



Fig. B



Fig. C



Fig. D



Fig. E



Fig. F



Fig. G



Fig. H



Fig. I



Fig. J



Fig. K



Fig. L



Qty	Description	Fig.	Supplier	Supplier #
2	Wheels – 3" Dave Brown LiteFlight	M	TekBots	3" Wheel
1	5/8" Roller Ball	N	TekBots	Roller Ball
4	Spacers – 1.5" 8-32 Nylon, Male - Female Threaded	O	McMaster Carr	92745A545

Fig. M



Fig. N



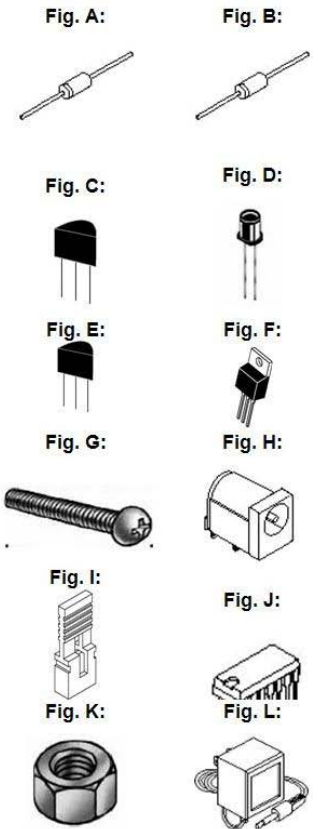
Fig. O



## 7.2 Part's List for the Charger Board

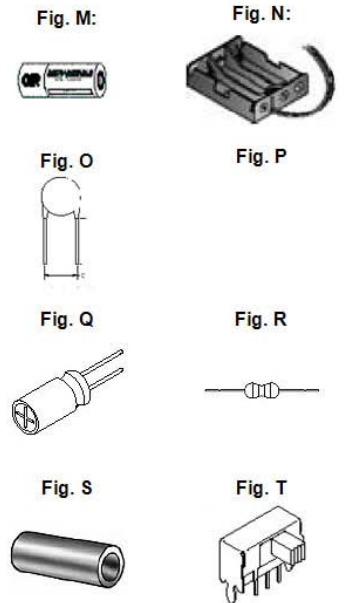
The table has the list of parts for the charger board:

Qty	Description	Ref.	Fig .	Supplier	Supplier #
4	Diode – Rectifier 1N4004 – D041	D5, D6, D7, D8	A	Mouser	583-1N4003
1	Diode – Schotkey 1N5819 -DO204AL	D2	A	Mouser	625-1N5819
1	Diode – Zener 1N5245B – D035	D1	B	Mouser	625-1N5245B
1	Diode – Zener TL431CLP – TO – 266AA (TO92)	D4	C	Mouser	512-TL431CLP
1	LED – Red HLMP1700	D3	D	Mouser	512-HLMP-1700
1	Transistor – BJT 2N4401 NPN – TO92	Q1	E	Mouser	625-2N4401
1	Transistor – BJT TIP 29C – TO220	Q2	F	Mouser	512-TIP29CTSTU
4	Bolts 4-40 Pan Head 3/8" Standard		G	McMaster Carr	90273A108
3	Bolts 4-40 Pan Head 1/2" Standard		G	McMaster Carr	91773A110
1	Power Connector PJ-002A Female Coaxial	J9	H	DigiKey	CP-002A-ND
1	Connector Header - .100" Shunt w/Handle	JP1	I	DigiKey	A26242-ND
1	IC – Dual Op Amp TS912IN	U1	J	Mouser	511-TS912IN
7	Nuts – 4-40		K	McMaster Carr	90480A005



**CHAPTER 7. APPENDIX B: PARTS**

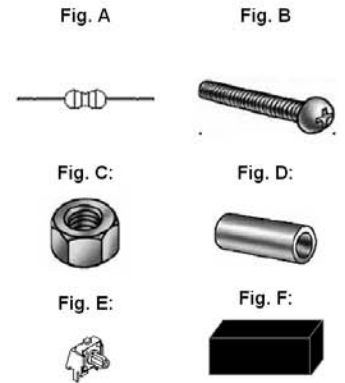
1	AC Adaptor – 12V/120mA Plug-In		L	TekBots	Wall Wart
6	Batteries – Rechargeable NiCad		M	TekBots	NiCad Battery
2	Battery Holders 3XAA 6" Leads		N	Mouser	12BH331
1	Fuse – MFRX110 1.1A Resettable	F1	O	Mouser	652-MFRX110
1	Capacitor – Ceramic Disk - .1uF	C1	P	Mouser	581-SR205E104M
1	Capacitor – Ceramic Disk - 47 pF	C2	P	Mouser	140-50S2-470J
1	Capacitor – Electrolytic – 330uF	C3	Q	Mouser	140-XRL35V330
1	1/8 Watt, 10 Ω Resistor	R4	R	Mouser	299-10
1	1/8 Watt, 12 Ω Resistor	R3	R	Mouser	299-12
1	1/8 Watt, 180 Ω Resistor	R1	R	Mouser	299-180
1	1/8 Watt, 3.3K Ω Resistor	R7	R	Mouser	299-3.3K
1	1/8 Watt, 330K Ω Resistor 1% Tolerance	R6	R	Mouser	P330KCACT-ND
1	1/8 Watt, 390 Ω Resistor	R2	R	Mouser	299-390
1	1/8 Watt, 4.7K Ω Resistor	R8	R	Mouser	299-4.7K
1	1/4 Watt, 820K Ω Resistor 1% Tolerance	R5	R	Mouser	P820KCACT-ND
3	Nylon Spacers		S	McMaster Carr	94639A615
1	Switch - EG1213 Miniature SPDT	S1	T	Mouser	612-EG1213



### 7.3 Part's List for the Sensor Board

The table has the list of parts for the sensor board:

Qty.	Description	Ref.	Fig.	Supplier	Supplier #
2	1/8 Watt Resistor – 100 Ω	R1, R2	A	Mouser	299-100
2	Bolts 4-40 Pan Head 1/2" – Standard		B	McMaster Carr	91773A110
2	Nuts – 4-40		C	McMaster Carr	90480A005
2	Spacers – 3/16" Nylon		D	McMaster Carr	94639A615
2	Switches – Tact Switch EG1025	S1, S2	E	Mouser	612-TL1100G
2	Switches – Switch Key Cap EG1076		F	Mouser	612-TAA-BK



## 7.4 Part's List for the Analog Board

The table has the list of parts for the analog board.

Qty.	Description	Ref.	Fig.	Supplier	Supplier #
1	Diode – Schotkey 1N5819 -DO204AL	D2	A	Mouser	625-1N5819
1	Diode – Zener 1N5230B – D035	D1	B	DigiKey	1N5230BMSCT-ND
4	Bolts 4-40 Pan Head 1/2" - Standard		C	McMaster Carr	91773A110
1	IC – LM339 – Quad Comparator	U1	D	DigiKey	LM339NNS-ND
4	Spacers – 3/16" Nylon		E	McMaster Carr	94639A615
4	Nuts – 4-40		F	McMaster Carr	90480A005
1	Capacitor – Ceramic Disk - .1" Spacing .1uF	C4	G	Mouser	581-SR205E104M
2	Capacitor – Tantalum 10uF	C1, C2	H	DigiKey	P2026-ND
4	Potentiometer –100K409H Ceremet	R1, R2, R3, R4	I	Mouser	323-409H-100K
2	10K $\Omega$ Resistor	R8, R9	J	Mouser	299-100K
2	100 $\Omega$ Resistor	R11, R12	J	Mouser	299-100
2	100K $\Omega$ Resistor	R6, R10	J	Mouser	299-100K
1	220 $\Omega$ Resistor	R5	J	Mouser	299-220

Fig. A



Fig. B



Fig. C



Fig. D



Fig. E



Fig. F



Fig. G



Fig. H:



Fig. I:

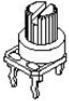
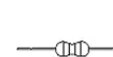


Fig. J:



## 7.5 Miscellaneous Part's

Parts not falling in any of the previous part's lists will appear in the table.

Qty.	Description	Fig.	Supplier	Supplier #
3	36 Female Header	A	DigiKey	929974-01-36-ND
1	1/16" Heat Shrink – 1 foot		DigiKey	A116B-4-ND
1	Protoboard	B	TekBots	Small Protoboard
1	10 Conductor Ribbon Cable – 15 inches		Mouser	517-3302/10FT
1	mtr_ctrl.1 Assembled Motor Controller Board	C	TekBots	mtr_ctrl.1
1	CAT-5 Wire – 1 foot		TekBots	CAT-5
4	Nylon Spacers	D	McMaster Carr	94639A615
4	Nuts – Metal 4-40	E	McMaster Carr	90480A005
3	Bolts 4-40 Pan Head 1/2" - Standard	F	McMaster Carr	91773A110

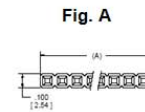


Fig. C

Fig. D

