

2.007 - Design and Manufacturing I

Spring 2008 Kit List

#	Picture	Q	Item Description	SW File / Info
Stock (provided in storage container)				
1		1	Plastic storage container (Rubbermaid Roughneck 14 gal 2212)	
2		1	Drill - Black & Decker 18 Volt	
3		1	Calipers - Digital!	
4		1	Black permanent marker	
5		4	Tamiya planetary gearbox kit and motor	
6		4	Plastic motor coupling	
7		1	Birch plywood square - nominally 16" x 16" x 3/8"	
8		1	6063-T6 Box Extrusion - 1" x 3" x 12" - 1/8" thick	
9		1	6063-T6 Box Extrusion - 1" x 1" x 18" - 1/8" thick	
10		4	6063-T6 Box Extrusion - 1" x 1" x 18" - 1/16" thick	
11		1	6061-T6 Bar - 2" x 12" x 1/4" thick	
12		1	6061-T6 Angle Bar - 1.5" x 1.5" x 12" - 1/4" thick	
13		2	Al angle Iron 1"x1x1/8"x18"	
14		1	6061-T6 Rod - 1/4" x 18"	
15		2	6061-T6 Rod - 5/16" x 18"	
16		2	5052-H32 Sheet - 1/16" x 18" x 18"	
17		2	2011 Hex Rod - 5/16" x 12"	
18		1	Threaded steel rod - 1/4-20, 12" length	
19		24"	Steel strips -1" x 0.048" (not in container, too big, as need)	
20		1	Steel Sheet - 18" x 18" x 1/32"	
21		4	1/8" diameter x 36" welding rod (not in container, too big, as need)	
22		1	Delrin Rod 1" Diameter x 6" Length	
23		1	Delrin Rod 2" Diameter x 4" Length	
24		2	ABS Sheet 12" x 12" x 1/4"	
25		2	Small PVC pipe - 1.0" I.D. x 18"	
26		2	Large PVC pipe - 1.25" I.D. x 18"	
		1	Medium pipes 1.5" ID this year only	
27		2	Square HDPE Bar 1/2" x 1/2" x 6"	
Wheels (provided in storage container)				
28		4	Four Inch Wheels - 4" diameter x 1" thick for 5/16" axle	
29		2	Caster Wheels - 2" diameter x 13/16" thick x 2.5" high	
Electrical (provided in storage container, spares limited)				DigiKey Part #
30		1	Battery wire to control box female connector	A1411-ND
31		2	Crimp terminals for above connector	A1421-ND
32		1	Motor wire to control box female connector	A25575-ND
33		8	Crimp terminals for above connector	A25692-ND
34		2	Battery wire to battery female quick disconnects	A29936CT-ND
35		1	Heat shrink 3/16 dia, 6" long	VER316K-ND
Wire (provided on spools)				
36		as need	Black & Red 18 gauge twisted together, type 1007	
Springs (stocked in bins)				McMaster Part #
37		4	Constant force spring (small)	(special order from Vulcan)
38		4	Compression spring	9657k152
39		4	Extension springs (small)	9654K14
40		4	Extension springs (medium)	9654K52
41		4	Extension springs (large)	9654K369
42		4	Torsion spring (small)	9271K452
43		4	Torsion spring (large)	9271K232
Gears (stocked in bins)				
44		4	Nylon spur gear, module 1, 12 teeth	
45		4	Nylon spur gear, module 1, 24 teeth	
46		4	Nylon spur gear, module 1, 36 teeth	
47		2	Nylon bevel gear, 24 diametral pitch, 24T	
48		2	Nylon bevel gear, 24 diametral pitch, 48T	
49		1	Length 12", 24 Diametral Pitch, 1/4" Face, 1/4" Height	
Little Bits (stocked in bins)				McMaster Part #
50		as need	Spring pins	98296A133
51		as need	1/4" Nylon bushing	6389K627
52		as need	5/16" Nylon bushing	6389K626
53		as need	E clip for 1/4" shaft	97431A300
54		as need	E clip for 5/16" shaft	97431A310
55		as need	1/8" Flat push-on retaining clips	94807A024

56		as need	1/4" Flat push-on retaining clips	94807A029
57		as need	5/16" Flat push-on retaining clips	94807A030
58		as need	1/8" Washer - .130" ID, .285" OD, .054"-.070" Thk	90295A070
59		as need	1/4" Washer - .260" ID, .687" OD, .054"-.070" Thk	90295A150
60		as need	5/16" Washer - .340" ID, .740" OD, .057"-.067" Thk	90295A160
Odds n'Ends (stocked in bins)				
61		as need	1/8" x 48" Buna-N cord, 70 durometer	
62		as need	3" x 24" x 1/16" Buna-N sheet stock	
63		as need	25' of braided nylon twine, 0.046" dia, 95 lb strength	
64		as need	Alcohol wipes	
65		as need	Two part epoxy packets	
66		as need	Zip tie wraps - 4" length	
67		as need	Cable zip tie mounts	
68		as need	Rubber bands	
Standard Lab Supplies				
		as need	An Assortment of Glues and Loctites	
		as need	Pop Rivets - 1/8" diameter, others possible	
		as need	Stocked Fasteners	
		as need	Other supplies provided by Pappalardo staff as needed	

Updated: 10 Feburary 2008, N. Hanumara