

2017 BEST Consumable Kit List (provided by hub)

Type	Check	Qty	Item Description	
igus® Donated Parts		1 meter	Energy Chain, P/N E2-15-20-028-0, w/ 2 each mount brackets (P/N E2.150.20.1 & .2)	
		2 ea	DryLin® N Linear Guide system, P/N NK01-27-2-450	
		6 ea	igubal® Flange Mount Spherical Bearing, 1/4", P/N EFOI-04	
		6 ea	igubal® Pillow Block Mount Spherical Bearing, 1/4", P/N KSTI-04	
		6 ea	iglide® G300 Flanged Bushing, 1/4", P/N GFI-0405-06	
		6 ea	igubal® 1/4" Rod End Bearing, 1/4"-28 Thread, P/N EBRI-04	
		2 ea	DryLin® S, 1/4" diameter, hard anodized Aluminum Shaft, P/N AWI-04, 18 inch length	
Plastic and Metal Stock		1 ea	1/8" thick clear polycarbonate sheet, 12" x 24"	
		1 ea	1/8" thick PVC Type 1 sheet 12" x 24"	
		1 ea	0.5" thick x 2" wide 6061-T6 aluminum flat, 12" long	
		1 ea	0.063" thick 5052-H32 aluminum sheet, 12" x 24"	
		2 ea	0.25" diameter AISI 1018 steel round, 24" long	
		4 ea	piano wire, 0.063" diameter, 12' long	
Wood and Foam Stock		1 ea	7/16" to 1/2" thick 2' x 4' plywood, any grade	
		1 ea	5/16" to 3/8" thick 2' x 4' plywood, any grade	
		1 ea	3/16" to 1/4" thick 2' x 4' plywood, any grade	
		1 ea	3/4" or 1" rigid foam board insulation, 1' x 4'	
		2 ea	1" x 4" (nominal) #2 whitewood, 2 ft long	
		1 ea	1/4" dia. oak dowel, 3 ft long	
		2 ea	3/4" schedule 40 PVC pipe, 5 ft long	
Pipes and Fittings		2 ea	1" schedule 40 PVC pipe, 5 ft long	
		1 ea	4" PVC solid pipe, SDR 35 or ASTM D2729, 3 ft long (without integral coupling)	
		10 ea	3/4" PVC 90 degree elbow (slip)	
		10 ea	3/4" PVC tee (slip)	
		6 ea	1" PVC 90 degree elbow (slip)	
		6 ea	1" PVC tee (slip)	
		2 ea	1/2" metal EMT conduit, 5 ft long	
		1 ea	PVC cement, 4 oz or 8 oz	
	Hardware		4 ea	2.5" x 5/8" steel ZN, corner angle bracket
			2 ea	2.5"H x 1.75"W x 0.055" narrow hinge w/removable pin
			2 ea	1.5"H x 1-3/8"W x 0.05" narrow hinge w/nonremovable pin & 4 screws
		1 ea	extension spring for heavy doors, 13/32"OD, 0.0625" wire diameter, steel	
		1 ea	6" x 6" steel turntable, 400 lb to 500 lb capacity	
		1 ea	3/4" metal pipe hanger tape, 28 gauge, 10 ft long	
Electrical			12 ft	18 gauge stranded copper wire, red insulation, single conductor
		12 ft	18 gauge stranded copper wire, black insulation, single conductor	
		12 ft	CAT3 24 gauge, 4 twisted pairs of conductor wire	
		16 ea	snap-plug terminals (bullet connectors), insulated, male (optional*)	
		16 ea	snap-plug terminals (socket for bullet connectors), insulated, female (optional*)	
		20 ea	quick-disconnect terminal, insulated, female, ~1/8" wide (optional*)	
		10 ea	quick-disconnect terminal, insulated, female, ~3/16" wide (optional*)	
		4 ea	sub-mini snap action switch, SPDT, 0.1 A, Omron P/N SS-01GL13PT	
		2 ea	rotary potentiometer, linear, 10K ohm, 300°, panel mount, 6mm (approx.) shaft	
		2 ft	heat shrink tubing, 1/4" OD expanded, 2:1 ratio, polyolefin, black	
		10 ea	11" long x 0.18" wide nylon cable tie	
		20 ea	4" long x 0.1" wide nylon cable tie	
Tapes and Adhesives		1 ea	vinyl electrical tape, 3/4" wide, 60 ft	
		1 ea	friction tape, 3/4" wide, 60 ft	
		1 ea	all purpose duct tape, 2" (or 1.88") wide, 50 to 60 yd, (color optional)	
		1 ea	painters tape, 1" (or 0.94") wide, 30 to 60 yd.	
		1 ea	carpenters wood glue, 4 oz	
		1 ea	5 minute epoxy, 0.85 oz	

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Threaded Fasteners		1 ea	1/4"-20 threaded rod, 3 ft long, steel
		25 ea	1/4"-20 hex nut, steel
		25 ea	1/4" SAE flat washer, steel
		25 ea	1/4" medium split lock washer, steel
		6 ea	1/4-28 x 1" screw, nylon (mates with igus rod end)
		6 ea	#10-32 x 1" socket head screw, high strength (150 KSI min) steel**
		25 ea	#10-32 x 1-1/2" machine screws, steel, round head, phillips **
		25 ea	#10-32 machine screw nuts, steel
		25 ea	#10 flat washer, steel
		100 ea	#8-32 x 1-1/4" machine screw, steel, pan head, phillips **
		100 ea	#8-32 machine screw nuts, steel
		25 ea	#8 medium split lock washer, steel (optional*)
		100 ea	#8 flat washer, steel
		25 ea	#4-40 x 1" machine screws, round head, steel **
		25 ea	#4-40 machine screw nuts, steel
		10 ea	#2-56 x 1" machine screws, pan head, phillips, stainless **
		10 ea	#2-56 machine screw nuts, steel
		10 ea	#2 flat washer, steel
		10 ea	wood screw eyebolts, 0.192 wire dia x .97 shank x .75 thread x .27 id, steel
		100 ea	#8 x 1" sheet metal screw, steel, hex head
	100 ea	#6 x 1" wood screws, steel, flat head	
	25 ea	#4 x 3/4" wood screw, steel, slotted drive, round head	
Miscellaneous		5 ft	3/4" nylon sticky back hook and loop fastener
		1 ea	#18 twisted nylon or polypropylene seine twine, 225 to 250 ft long (color optional)
		4 ft	1/4" polypropylene covered shock cord (color optional)
		2 ft	3/8" thick, 1" wide, adhesive backed, gum rubber strip
		1 ea	bicycle inner tube (26" x 1.5" to 2.00")
		1 ea	60x65" universal brake cable with housing (white or black)
		25 ea	#10 Rubber Band (1/16" wide x 1-1/4" long)
		25 ea	#32 Rubber Band (1/8" wide x 3" long)
		100 ea	1 1/4" long paper clips, 0.033 dia wire (No. 1 Regular)
		1 ea	VEX motor mounting kit (4 mounts + screws)

Approved Optional Items (provided by team) ¹

Qty	Item Description
10 ea	wooden spring type clothes pins
2400 sq in	corrugated cardboard, 1/4" maximum thickness
2 ea	empty food/beverage PETE container with screw on cap/lid (2 liter max.) ²
3 ea	wire coat hangers with or without plastic coating, 1/8" dia. max.
3 ea	solid core golf balls
1 ea	5 minute epoxy, 0.85 oz
3 ea	~10oz empty metal soup can with lid removed
24 lb	pennies (cannot be altered; bank wrappers allowed)
1 ea	8 oz. PVC primer
36 ea	craft "Popsicle" sticks (maximum dimensions; 4.75" long, 0.44" wide, 0.10" thick)
1 ea	aluminum paint grid for 5 gallon bucket
4 ea	CD or DVD disk (standard size: 120mm diameter x 1.2 mm thick)
25 ea	deck or drywall screws; 2-1/2" maximum length
25 ea	wire management clips/ties/wraps (can only be used on wiring)
2 ea	Team Custom Part ³

Notes: * Teams may use these optional items even if they are not supplied by the hub.

** Teams may substitute shorter screws of the same type and grade.

1 The identified Team Supplied (Optional Items) can be used *in addition* to the items that are supplied by the hub.

2 PET or PETE (polyethylene terephthalate) is identified by a number 1 recycling symbol.