

# 2014 BEST Returnable Kit List

	Check	Qty	Item Description	Required/Optional	Manufacturer/Source	Part Number
BEST Control System Kit (VEX 270-1605)	1	1	Cortex Microcontroller	Required <sup>3</sup>	VEX Robotics	278-2194
	2	1	VEXnet Joystick	Required	VEX Robotics	276-2192
	3	2	VEXnet Key 2.0	Required	VEX Robotics	276-3245
	4	1	VEXnet Backup Battery Holder	Optional <sup>5</sup>	VEX Robotics	276-2243
	5	4	Motor Controller 7.2V 4A	Required	VEX Robotics	276-2193
	6	2	Large Motor	Required	VEX Robotics	276-1611
	7	2	Small Motor	Required	VEX Robotics	276-1610
	8	2	7.2 V 3000 mAh NiMH battery - modified w/ PowerPole connectors	Required <sup>1</sup>	VEX Robotics	276-1491
	9	1	Cortex Battery Adapter (attached to Cortex)	Required <sup>3</sup>	None - Hub Assembly Req'd	n/a
	10	1	Charger Adapter (attached to charger)	Required <sup>2,3</sup>	None - Hub Assembly Req'd	n/a
	11	8	Screw Terminal Sensor Interface Cable 3-wire	Required <sup>4</sup>	VEX Robotics	276-3071
	12	4	Screw Terminal Motor Interface Cable (red and black wires)	Required	VEX Robotics	276-1608
	13	4	Servo Power Adapter Cable	Required	VEX Robotics	276-2195
	14	1	Smart Battery Charger & power cord	Required <sup>2,3</sup>	VEX Robotics	276-2519, 276-2520
	15	1	8-bay AAA Smart Battery Charger & power cord	Required <sup>2</sup>	VEX Robotics	276-1622
	16	6	AAA NiMH Rechargeable Batteries (installed in Joystick)	Required	VEX Robotics	276-1696
	17	1	USB A-A Cable	Required <sup>2</sup>	VEX Robotics	276-1403
BEST Servo Kit (VEX 270-1682)	18	4	Futaba 3003/3004 Servo	Required	Tower Hobbies	LXH288 / LXZV41
	19	4	servo horn screw	Required	Tower Hobbies	FUTM2260 (10 pack)
	20	1	large round servo horn	Required	Tower Hobbies	LXH362
	21	2	4-arm servo horn	Required	Tower Hobbies	LXH365
	22	2	6-arm servo horn	Required	Tower Hobbies	LXH363
	23	2	24" servo extension wire	Required	Dymond Modelsport	10805
	24	2	40" servo extension wire (36" or 1000 mm also allowed)	Required	Dymond Modelsport	10415
	25	16	rubber grommet	Optional <sup>5</sup>	Tower Hobbies	FUTM2310 (20 pack)
	26	16	brass spacer	Optional <sup>5</sup>	Tower Hobbies	FUTM3650 (20 pack)
	27	16	servo mounting screw	Optional <sup>5</sup>	Tower Hobbies	FUTM2250 (10 pack)
BEST Belt & Pulley Kit (VEX 270-1683)	28	1	1/4 bore, 18 groove, (small) plastic drive pulley with metal insert	Required	Stock Drive Products	A 6T16-018DF2508
	29	1	3/16 bore, 18 groove, (small) plastic pulley	Required	Stock Drive Products	A 6M16-018DF2506
	30	1	1/4 Bore 130 groove, (large) plastic drive pulley with metal insert	Required	Stock Drive Products	A 6Z16-130DF2508
	31	1	180 Groove, 0.080 pitch, 1/4 wide belt	Required	Stock Drive Products	A 6Z16-180025
	32	1	0.080 pitch, 1/4 wide belt stock, 3 ft long	Required	Stock Drive Products	A 6Z16-C025
	33	1	3/16 dia, 3/4 long shoulder screw w/ 8-32 thread	Required	Stock Drive Products	A 9X25-0624
	34	4	R4AZZ Ball Bearing (0.25 ID x 0.75 OD x 0.28 wide)	Required	Big Bearing Store	R4A
Hub Provided	35	1	spare (replacement) servo horn screw	Required	Tower Hobbies	FUTM2260 (10 pack)
	36	2	small round servo horn	Optional <sup>5</sup>	Tower Hobbies	LXH364
	37	1	76mm roller blade wheel (78A to 82A) w/ bearings and 6mm spacer	Required	Inline Warehouse	n/a
	38	1	6mm roller blade wheel axle (any style)	Required	Inline Warehouse	n/a
	39	1	18" (or less) USB extension cable (between Cortex and WIFI key)	Optional <sup>5</sup>	monoprice	5431
	40	1	VEX Programming Hardware Kit	Optional <sup>2,5</sup>	VEX Robotics	276-2186
	41	1	1/16" hex wrench (for pulley set screws)	Optional <sup>2</sup>	McMaster-Carr	71285A149
		any	Containers, bags, boxes	Required <sup>2</sup>	Hub Supplied	

Notes: <sup>1</sup> Only one battery can be used on the robot at any given time.

<sup>2</sup> These items cannot be used on the robot.

<sup>3</sup> Cortex and battery charger may be converted (by the Hub only) to PowerPole connectors, eliminating the need for the Molex to PowerPole adapter/s.

<sup>4</sup> Up to (6) of the old two wire sensor cables may be substituted (VEX P/N 276-1734).

<sup>5</sup> Teams may use these Returnable Kit optional items even if they are not supplied by the hub.