

2019 Kickoff Kit Checklist

BLACK TOTE

<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
Bag #1						
	Assorted Terminal Bag ~2 x 10-12 AWG connector (PN 80601385836) ~2 x 14-16 AWG connector (PN 80601383724) ~20 x 10-12 AWG quick disconnect F (80610531214) ~20 x 14-16 AWG quick disconnect F (80601391719) ~20 x 10-12 AWG quick disconnect M (80610057806) ~20 x 14-16 AWG quick disconnect M (80610056071) ~10 x 10-12 AWG ring (PN 80610048540) ~5 x 14-16 AWG ring (PN 80610040737) ~5 x 18-22 AWG ring (PN 80610035307) ~5 x 10-12 AWG spade (PN 80610531362)	3M	TERMINAL BAG - 2019	1	No specific source	
	UNIWRAP Cable Ties 4 in., 18 lb, white, bag of 100	BURNDY LLC	CT18075C	1	No specific source	
	UNIWRAP Cable Ties 7.5 in., 50 lb, white, bag of 100	BURNDY LLC	CT50175C	1	No specific source	
	Wire 06 AWG, Black, 1½ ft. length	Belden	06AWGB-1.5	1	No specific source	
	Wire 06 AWG, Red, 1½ ft. length	Belden	06AWGR-1.5	1	No specific source	

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	Wire 12 AWG, Red & Black, 15 ft. length each	Belden	12AWGB-15 12AWGR-15	1	No specific source	
	Wire 18 AWG, Red & Black, 10 ft. length each	Belden	18AWGB-10 18AWGR-10	1	No specific source	
Bag #2						
	Throttle Motor	DENSO/ ASMO	AE235100-0160	4	Not available	
	Seat Motor w/ connector, cable	Bosch	6004 RA3 194-06	1	Not available	
Bag #3						
	Shaft Collar $\frac{3}{8}$ in.	Ruland Manufacturing Co., Inc.	CL-6-A	1	www.ruland.com/first	
	Circuit Breaker 20A	Snap Action, Inc.	VB3-A20-F57	2	www.snapaction.net or www.andymark.com	

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	Circuit Breaker 30A	Snap Action, Inc.	VB3-A30-F57	2	www.snapaction.net or www.andymark.com	
	Circuit Breaker 40A	Snap Action, Inc.	MX5-A-40	6	www.snapaction.net or www.andymark.com	
	Vulcan Springs Packet 1 Series H (PN SH6G25), 1 Series L (PN SL6G25), voucher info page	Vulcan Spring & Mfg. Co.	SH6G25 SL6G25	1	http://info.vulcanspring.com/firts-robotics-competition	
	Miniature Basic Switch with lever	Honeywell Sensing and Productivity Solutions	V7-2B17D8-048	2	No specific source	
	Pillow Block Bearing - Base	Triangle Mfg	3687	2	www.triangleoshkosh.com	
	Pillow Block Bearing - Top	Triangle Mfg	3688	2	www.triangleoshkosh.com	

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	Flange - Block	Triangle Mfg	4050	2	www.triangleoshkosh.com	
	Bearing Ball	Triangle Mfg	1508P	4	www.triangleoshkosh.com	
	Hex Hub Half ½ in.	Armabot	A0066	2	https://www.armabot.com/	
Bag #4						
	Grip Material 18 in. length	3M	70006701497 or 300LSE	1	No specific source	
	Electrical Tape "Super 33+," Vinyl, Black, ¾ in x 66 ft.	3M	34-8720-3265-0	1	No specific source	
	Electrical Tape "35 Red," Vinyl, Red, ¾ in x 66 ft.	3M	38-9019-3978-5	1	No specific source	

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	Power cable, for radio	Epec	PwrCblRdo	1	No specific source	
	CULUG Copper Compression Terminal 6 AWG, bag of 8	BURNDY LLC	YAZV6CTC14FX	1	www.andymark.com	
	DESTINATION:DEEP SPACE Participation Pins Bag of 40	Sports Awards	2019PINPACKET	1	firstinspiresawards.com	
Bag #5						
	Radial Wheel Size 1 (0.771 in. OD, 0.201 in. bore, 0.274 in width)	Bishop Wisecarver	W1RSSX	1	bwc.com or sales@bwc.com	
	Radial Wheel Size 1 (0.771 in. OD, 0.201 in. bore, 0.274 in width)	Bishop Wisecarver	W1RX	2	bwc.com or sales@bwc.com	
	Radial Wheel Size 2 (1.210 in. OD, 0.251 in. bore, 0.383 in width)	Bishop Wisecarver	W2RSSX	1	bwc.com or sales@bwc.com	

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<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	Radial Wheel Size 2 (1.210 in. OD, 0.251 in. bore, 0.383 in width)	Bishop Wisecarver	W2RX	1	bwc.com or sales@bwc.com	
	Radial Wheel Size 3 (1.803 in. OD, 0.316 in. bore, 0.551 in width)	Bishop Wisecarver	W3RX	2	bwc.com or sales@bwc.com	
Bag #6						
	Locktite 243 Threadlocker Blue (medium strength)	Henkel	1329467	1	https://www.fastenal.com/	
	Locktite 263 Threadlocker Red (high strength)	Henkel	1330583	1	https://www.fastenal.com/	
	Plastic & Rubber Instant Adhesive Scotch-Weld	3M	PR100	1	No specific source	
	Bumper SJ5003, Sheet of 56	3M	70070079671	1	No specific source	

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	Bumper SJ5009, Sheet of 24	3M	70070079754	1	No specific source	
	Heat Shrink Thin-Wall Tubing, $\frac{1}{8}$ in., 4 ft. length, FP301	3M	80611600893	2	No specific source	
	Heat Shrink Thin-Wall Tubing, $\frac{1}{4}$ in., 4 ft. length, FP301	3M	80611600968	2	No specific source	
	Heat Shrink Thin-Wall Tubing, $\frac{1}{2}$ in., 4 ft. length, FP301	3M	80611601206	2	No specific source	
	Bumper Material Sample	Robopromo.com	N/A	1	Not available	
	Bag #8					
	Info packet SB50 connector	Anderson Power Products	N/A	1	Not available	

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<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	APP Sticker	Anderson Power Products	N/A	1	Not available	
	2019 Kit of Parts (Voucher) Catalog	D3	N/A	1	Not available	
	Ruler	Digi-Key Electronics	DIGIKEY RULER	1	Not available	
	Sticker Card	Digi-Key Electronics	N/A	1	Not available	
	Voucher Info Sheet	Digi-Key Electronics	N/A	1	Not available	
	High Performance Ultrasonic Rangefinder (sensor stapled to flyer)	MaxBotix Inc.	MB1013-000	1	Not available	

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	Loctite Sticker	Henkel	N/A	1	Not available	
	Event Housing Info Sheet	FIRST	N/A	1	Not available	
	Blue Fine pt Marker	Kettering University	260003	1	No specific source	
	Red Fine pt Marker	Kettering University	260007	1	No specific source	
	Pen Clip	Kettering University	PENCLIP	2	No specific source	
	WPI Bumber Sticker	WPI	N/A	1	Not available	

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<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	LabVIEW Packet details on how to get LabVIEW for FRC	National Instruments	N/A	1	Not available	
	AndyMark Flyer	AndyMark	N/A	1	Not available	
igus bag						
	e-chain® cable carrier 1 meter	igus Inc.	05-4-038-0	1	www.igus.com Catarina Peixoto, (401) 438-2200	 <small>Photo: igus</small>
	e-chain® cable carrier mounting bracket set	igus Inc.	050-20-12	1	www.igus.com Catarina Peixoto, (401) 438-2200	
	chainflex cable 20 AWG, 2 wire	igus Inc.	CF9-05-02	1	www.igus.com Catarina Peixoto, (401) 438-2200	
	iglide® tribo-tape 12 in. strip	igus Inc.	A160T5100S305	1	www.igus.com Catarina Peixoto, (401) 438-2200	

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	drylin® N linear guide system With 24 in. rail & 2 carriages	igus Inc.	NK02-40-2-610	1	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus
	iglide® J plain bearing	igus Inc.	JSI-1012-08	2	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus
	iglide® J plain bearing w/ flange	igus Inc.	JFI-1012-08	2	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus
	iglide® M250 plain bearing	igus Inc.	MTI-10	2	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus
	igubal® rod end	igus Inc.	EBRI-10R	2	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus
	igubal® flange	igus Inc.	EFOI-10R	2	www.igus.com Catarina Peixoto, (401) 438-2200	 Photo: igus

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	drylin® S aluminum shafting 24 in.	igus Inc.	AWI-10	2	www.igus.com Catarina Peixoto, (401) 438-2200	 <small>Photo: igus</small>
	iglide® MCI bearing	igus Inc.	MCI-06-01	4	www.igus.com Catarina Peixoto, (401) 438-2200	 <small>Photo: igus</small>
AndyMark Box						
	RedLine Motor	AndyMark	am-3775a	1	http://www.andymark.com	
	Stealth Wheel, 2in. 1/2in. Hex, 50 Durometer	AndyMark	am-3155_blue	1	https://www.andymark.com	
BaneBots Gearbox Kit						
	3/8in. Hex Output Shaft	BaneBots	SSPP-7H6shaft or AM-3989	1	http://www.banebots.com or www.andymark.com	
	Sport Pinion Output Shaft	BaneBots	SSPP-P4 or AM-3988	1	http://www.banebots.com or www.andymark.com	

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	Pinion Gear	BaneBots	AM-3784	2	http://www.banebots.com or www.andymark.com	
	Output Gear	BaneBots	SSPP-7H6gear or AM-3992	1	http://www.banebots.com or www.andymark.com	
	Gearbox Front Plate	BaneBots	SSPP-2-7-front or AM-3985	1	http://www.banebots.com or www.andymark.com	
	Gearbox Back Plate	BaneBots	SSPP-2-7-back or AM-3986	1	http://www.banebots.com or www.andymark.com	
	Bolt M4	BaneBots	bb-bolt	4	http://www.banebots.com or www.andymark.com	
	Nut M4	BaneBots	bb-nut	4	http://www.banebots.com or www.andymark.com	

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	Snap Ring	BaneBots	bb-snapring	2	http://www.banebots.com or www.andymark.com	
BaneBots Wheel and Hub Kit						
	2 in. T81 Blue Wheel 50A	BaneBots	T81P-205BA	1	http://www.banebots.com	
	2 in. T81 Green Wheel 30A	BaneBots	T81P-203BG	1	http://www.banebots.com	
	3 in. T81 Orange Compliant Wheel 40A	BaneBots	T81P-304BO	1	http://www.banebots.com	
	3/8 in. T81 Hex Hub	BaneBots	T81H-HS61	1	http://www.banebots.com	
	Snap Ring 3/4in External	BaneBots	bb-snapring3-4	1	http://www.banebots.com	

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	Set Screw 8-32 x 3/16in	BaneBots	bb-setscrew	1	http://www.banebots.com	
	Set Screw 8-32 x 1/4in Full Dog	BaneBots	bb-setscrewfulldog	1	http://www.banebots.com	
REV Robotics Kit						
	CAN Wire 22 AWG, Green/Yellow Twist, 36 in.	REV Robotics	REV-11-1149	1	www.REVrobotics.com	
	PWM Y Cable 22 AWG, 12 in., F/MM	REV Robotics	REV-11-1131	2	www.REVrobotics.com	
	POE Injector Cable	REV Robotics	REV-11-1210	1	www.REVrobotics.com	
	2-Wire Jumper Cable 36 in., F/F	REV Robotics	REV-11-1134	1	www.REVrobotics.com	

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	PWM Cable 22 AWG, 36 in., F/M	REV Robotics	REV-11-1130	4	www.REVrobotics.com	
Loose						
	Dual Lock Reclosable Fastener 12 ft.	3M	SJ3540 or 70070521052	1	No specific source	
Tags						
		American Casting & Manufacturing Corporation	9001-16	10	http://www.americancasting.com/info-plastic-strap-seals-9001.asp	
Main Circuit Breaker						
	120A	Eaton - Bussmann Division	CB185-120	1	www.eaton.com/bussmannseries	
Robot Bags						
		IPS Packaging	114200	2	No specific source	
Robot Radio						
	Dual Band 1.17 Gbps Access Point	Open Mesh Networks	OM5P-AC	1	www.andymark.com	

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	Robot Signal Light (i.e. Panel Signal Device)	Rockwell Automation	855PB-B12ME522	1	No specific source	
	Ethernet cable colors & lengths vary	Various	ethernetcable	1	No specific source	
	Battery Connector SB50-FR (housing) and 5900-BK (contacts)	Anderson Power Products	2019 CONNECTORS	3	http://www.andersonpower.com (housing & contacts) http://www.andymark.com (connector assembly)	
	Cardboard VR Viewer (colors vary)	Siemens	cardboardvr	1	Not available	
	White Board	Kettering University	whiteboard	1	Not available	
	Safety Poster	Boeing	N/A	1	Not available	

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	Alumni Calendar	FIRST	N/A	1	Not available	
	Game Piece: CARGO	School Specialty	1623139E	1	www.andymark.com	
	VHB Tape	3M	70006149820	1	No specific source	



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Loose						
	USB 2.0 to 10/100 Mbps Ethernet Network Adapter Dongle	Connection	USB2100	1	No specific source	
	Joystick Extreme 3D Pro	Best Buy	963290-0403	1	No specific source	
	Air Volume Tank 32 cu. in., Black Plastic	Clippard Instrument Laboratory	AVT-PP-35	1	(513) 521-4261	
	Pneumatic Control Module	CTR Electronics	14-806777 or CTRE_PCM_1	1	www.ctr-electronics.com	
	Power Distribution Panel	CTR Electronics	14-806880 or CTRE_PDP_1	1	www.ctr-electronics.com	
	Voltage Regulator Module	CTR Electronics	14-868277 or CTRE_VRM_1	1	www.ctr-electronics.com	

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	PSoC 5LP Prototyping Kit	Cypress	CY8CKIT-059	1	http://www.cypress.com/forum/firstrobotics-competition www.digikey.com	
	Netbook Lenovo	Connection	2019 Netbook or 81CY	1	No specific source	
	Power (Battery) Charger	HK TENGSHUN POWER SUPPLY CO LIMITED	FY1205000	1	No specific source	
	NI roboRIO for FRC	National Instruments	783582-01	1	www.andymark.com	
	Battery Connector SB50-FR (housing) and 5900-BK (contacts)	Anderson Power Products	2019 CONNECTORS	1	(housing & contacts) (connector assembly)	
	Gamepad (ROOKIES ONLY) F310 Logitech	Connection	940-000110	1	No specific source	

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	Camera Microsoft LifeCam	Connection	HD-3000	1	No specific source	
	Compressor Model 90C	Viair	00090	1	No specific source	
REV Robotics Kit						
	2-Wire Jumper Cable 36 in., F/F	REV Robotics	REV-11-1134	1	www.REVrobotics.com	
	CAN Wire 22 AWG, Green/Yellow Twist, 36 in.	REV Robotics	REV-11-1149	1	www.REVrobotics.com	
	PWM Y Cable 22 AWG, 12 in., F/MM	REV Robotics	REV-11-1131	2	www.REVrobotics.com	
	PWM Cable 22 AWG, 36 in., F/M	REV Robotics	REV-11-1130	4	www.REVrobotics.com	

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Digilent Kit						
	Digilent Ruler PCB	Digilent	200-332	1	www.digilent.com	
	Tail Skid	Digilent	290-015	1	www.digilent.com	
	Screwdriver Green, 2.4mm flat tip blade	Digilent	460-008	1	www.digilent.com	
	Sticky Servo Wheel Tire 2.75in x 0.38in	Digilent	290-022	2	www.digilent.com	
	Wheel Kit	Digilent	240-015	1	www.digilent.com	
	2 Cell, AA Battery, Series connection, wire leads	Digilent	163-043	1	www.digilent.com	

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	USB 2.0 A to B Cable Shielded - 1.5 meters	Digilent	250-059	1	www.digilent.com	
	MTE Cable 4 x (2x2)	Digilent	250-061	4	www.digilent.com	
	9V Battery Connector	Digilent	310-031	4	www.digilent.com	
Bag #9						
	E-Stop Sticker	N/A	estopsticker	1	Not available	
	Plug Socket with Cable ½ m length (in FESTO packet)	Festo	NEBV-H1G2-KN-0.5-N-LE2 or 566654	2	www.festo.us/first	
	Fitting M7 thread, ¼ in. tubing (in FESTO packet)	Festo	QSM-M7-1/4-I-U-M or 183740	3	www.festo.us/first	

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	Solenoid Valve Double, 24VDC (in FESTO packet)	Festo	VUVG-LK10-B52-T-M7-1H2L-S or 8042548	1	www.festo.us/first	
	PTFE Thread Seal Tape (aka Teflon Tape), 1/4 in. x 520 in.	HPE Automation	PTFE-1-4	1	No specific source	
	Pressure Gauge 1/8 in NPT, 160psi	Colonial Instruments	102D-158F	2	No specific source	
	Relief Valve	IMI Precision Engineering/Norgren	16-004-011	1	No specific source	
	Pressure Switch	Nason	SM-2B-115R/443	1	www.nasonptc.com	
	Micro Valve Female Pipe (in Parker "FIRST kit")	Parker Hannifin Corporation	MV709-2	1	No specific source	

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	Union Tee (in Parker "FIRST kit")	Parker Hannifin Corporation	2203P-2	3	No specific source	
	Plug 1/8 in. (in Parker "FIRST kit")	Parker Hannifin Corporation	218P-2	2	No specific source	
	Plug 1/4 in. (in Parker "FIRST kit")	Parker Hannifin Corporation	218P-4	2	No specific source	
	Hex Nipple 1/4 in. (in Parker "FIRST kit")	Parker Hannifin Corporation	216P-2	3	No specific source	
	Adapter 1/4 in. to 1/8 in, F/M (in Parker "FIRST kit")	Parker Hannifin Corporation	222P-4-2	1	No specific source	
	Brass Bushing 1/8 in. to 1/4 in, F/M (in Parker "FIRST kit")	Parker Hannifin Corporation	209P-4-2	2	No specific source	



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	Prestolok Male Connector (in Parker "FIRST" kit")	Parker Hannifin Corporation	W68PLP-4-2	6	No specific source	
	Prestolok Union Tee (in Parker "FIRST" kit")	Parker Hannifin Corporation	364PLP-4	4	No specific source	
	Prestolok Elbow Connector (in Parker "FIRST" kit")	Parker Hannifin Corporation	W369PLP-4-2	4	No specific source	
	Voucher Red and Blue Bumper Material	Robopromo.com	N/A	1	Not available	
	Pressure Regulator	IMI Precision Engineering/Norgren	R07-100-RNEA	1	No specific source	
	Regulator Mounting Kit	IMI Precision Engineering/Norgren	18-025-003	1	No specific source	

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VEXpro Rookie Add-On Kit						
	CIM Motor	VEXpro	217-2000	2	www.vexrobotics.com	
	Motor Controller, Victor SPX	VEXpro	217-9191	2	www.vexrobotics.com	 <small>Photo: VEXpro</small>

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DRIVE BASE KIT

<input checked="" type="checkbox"/> Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
am-14U4_CK1 - Chassis Kit 1					
Thread Forming Screw (TFS) $\frac{1}{4}$ -20 x $\frac{3}{4}$ in.	AndyMark, Inc.	am-1310	28	andymark.com	
am-14U4_CK2 - Axle Kit					
HHS Bolt $\frac{3}{8}$ -16 x $4\frac{1}{4}$ in.	AndyMark, Inc.	am-1297	4	andymark.com	
Nylock Nut $\frac{3}{8}$ -16	AndyMark, Inc.	am-1054	4	andymark.com	
am-14U4_CK3 - Spacer Kit					
Spacer 0.850 in., 0.380 in. ID	AndyMark, Inc.	am-1307	4	andymark.com	
Spacer 0.280 in., 0.382 in. ID	AndyMark, Inc.	am-1306	4	andymark.com	
Spacer 0.570 in., Hex, $\frac{1}{2}$ in. ID	AndyMark, Inc.	am-1305	2	andymark.com	

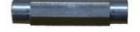
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DRIVE BASE KIT

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am-14U4_CK4 - Chassis Kit 4					
Screw SHCS, 10-32 x ½ in.	AndyMark, Inc.	am-1002	24	andymark.com	
Unmarked Bag					
500 Churro 3.375 in.	AndyMark, Inc.	am-2569	12	andymark.com	
am-14U4_CK6 - Wheel Motion Kit					
Half Pulley 42 tooth, 5mm pitch HTD	AndyMark, Inc.	am-2234-half	16	andymark.com	
Hex Hub 500 EX	AndyMark, Inc.	am-2568	2	andymark.com	
am-14U4_CK7 Wheel Screw Kit					
Thread Forming Screws 10-24 x 1¼ in.	AndyMark, Inc.	am-1266	48	andymark.com	

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am-14U4_CK8 - Bearing Kit					
Bearing 1614ZZ, shielded	AndyMark, Inc.	am-0209	8	andymark.com	
Toughbox Mini Kit (2 kits)					
TB Mini Hex Output Shaft	AndyMark, Inc.	am-2566a_K19	1 (2)	andymark.com	
TB Mini Housing	AndyMark, Inc.	am-0650	1 (2)	andymark.com	
TB Mini Small Hex Shaft	AndyMark, Inc.	am-0152	1 (2)	andymark.com	
am-14U4_TM1 - Toughbox Mini Kit 1					
Toughbox Large Cluster Gear Hex, 50 tooth, $\frac{3}{8}$ in.	AndyMark, Inc.	am-0149	1 (2)	andymark.com	

2019 Kickoff Kit Checklist

DRIVE BASE KIT

<input checked="" type="checkbox"/> Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
CIM Gear 14 tooth, 8mm	AndyMark, Inc.	am-0034	2 (4)	andymark.com	
Small Cluster Gear Hex, 16 tooth, $\frac{3}{8}$ in.	AndyMark, Inc.	am-0747	1 (2)	andymark.com	
Large Output Gear Hex, 48 tooth, $\frac{1}{2}$ in.	AndyMark, Inc.	am-0885	1 (2)	andymark.com	
am-14U4_TM2 - Toughbox Mini Kit 2					
Bearing R6ZZ	AndyMark, Inc.	am-0516	2 (4)	andymark.com	
Bearing FR6ZZ	AndyMark, Inc.	am-0028	1 (2)	andymark.com	
Hex Bearing FR8ZZ, HD, shielded, flanged	AndyMark, Inc.	am-2986	1 (2)	andymark.com	

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Grease Pack	AndyMark, Inc.	am-2768	1 (2)	andymark.com	
am-14U4_TM3 - Toughbox Mini Kit 3					
Machine Key 2 x 2 x 10mm	AndyMark, Inc.	am-1121	2 (4)	andymark.com	
Screw SHCS, 10-32 x 3/4 in.	AndyMark, Inc.	am-1047	4 (8)	andymark.com	
Retaining Clip 8mm	AndyMark, Inc.	am-0033	2 (4)	andymark.com	
External Klipring 1/2 in.	AndyMark, Inc.	am-0206	1 (2)	andymark.com	
Washer 5/16 in.	AndyMark, Inc.	am-1009	4 (8)	andymark.com	

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<input checked="" type="checkbox"/> Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
Screw 10-32 x $\frac{5}{8}$ in., SHCS with Yellow Patch	AndyMark, Inc.	am-1120	4 (8)	andymark.com	
Nylock Nut 10-32	AndyMark, Inc.	am-1042	4 (8)	andymark.com	
Hardware Pack for AM14U4 Vertical Battery Mount					
Screw SHCS, 10-32 x $\frac{1}{2}$ in.	AndyMark, Inc.	am-1002	10	andymark.com	
Thread Rolling Screw $\frac{1}{4}$ -20 x $\frac{3}{4}$ in.	AndyMark, Inc.	am-1310	4	andymark.com	
Nylock Jam Nut 10-32	AndyMark, Inc.	am-1063	10	andymark.com	
Screw 6-32 x 0.75 in. HHS	AndyMark, Inc.	am-1424	2	andymark.com	

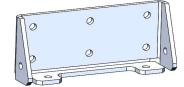
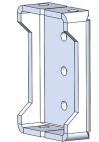
2019 Kickoff Kit Checklist

DRIVE BASE KIT

<input checked="" type="checkbox"/> Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
Nylock Jam Nut 6-32	AndyMark, Inc.	am-1419	2	andymark.com	
500 Churro 3.375 in.	AndyMark, Inc.	am-2569	2	andymark.com	
Battery Strap	AndyMark, Inc.	am-3965	1	andymark.com	
Battery Vertical Mount Strap Clamp	AndyMark, Inc.	am-3960	1	andymark.com	
2019 Bumper Hardware Kit					
Screw RHS, 10-32 x 3.75 in.	AndyMark	am-1502	12	andymark.com	
Wing Nut #10-32	AndyMark	am-1483	25	andymark.com	
Flat Head Wood Screw #8 Phillips	AndyMark, Inc.	am-1387	50	andymark.com	

2019 Kickoff Kit Checklist

DRIVE BASE KIT

<input checked="" type="checkbox"/> Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
Loose Items					
Front/Corner Bumper Bracket	AndyMark, Inc.	am-3961	8	andymark.com	
Side Mount Bumper Bracket	AndyMark, Inc.	am-3962	8	andymark.com	
Belt Gates HTD, 15mm wide, 120 tooth	Gates Corporation	600-5M-15	4	gates.com/FIRST	
Belt Gates HTD, 15mm wide, 131 tooth	Gates Corporation	655-5M-15	4	gates.com/FIRST	
Belt Gates HTD, 15mm wide, 160 tooth	Gates Corporation	800-5M-15	4	gates.com/FIRST	
C Plate	AndyMark, Inc.	am-3958	1	andymark.com	

2019 Kickoff Kit Checklist

DRIVE BASE KIT

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Bottom Battery Plate	AndyMark, Inc.	am-3959	1	andymark.com	
Wheel 6 in. HiGrip	AndyMark, Inc.	am-0940b	6	andymark.com	
AM14U4 End Plate	AndyMark, Inc.	am-3920	2	andymark.com	
AM14U4 Outer Plate	AndyMark, Inc.	am-3921	2	andymark.com	
AM14U4 Inner Plate	AndyMark, Inc.	am-3922	2	andymark.com	
500 Churro 24¼ in.	AndyMark, Inc.	am-2974	2	andymark.com	

2019 Kickoff Kit Checklist

SEPARATE ITEMS

<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	Square Tube 6063-T52 1/16 in. aluminum, 1 in. x 1 in. x 4 ft.	Sapa Extrusions North America	ALUMINUM	4	www.sapagroup.com/NA	
	Motor Controller Victor SPX	Innovation First International	217-9191	2	www.vexrobotics.com	 <small>Photo: VEXpro</small>
	Game Piece Hatch Panel	Innovation First International	217-6562	1	www.vexrobotics.com	
	Pneumatic Tubing Kit Two 25 ft. tubing & voucher flyer	AutomationDirect.com	2019-AD-Bag	1	No specific source	
	Battery Sealed Lead Acid, 12V, 18Ah, Bolt Fastened, Rechargeable	Sigma	SG12180FP or SP121-18 or 2019 Battery	1	No specific source	
	Battery (ROOKIES ONLY) Sealed Lead Acid, 12V, 18Ah, Bolt Fastened, Rechargeable	Sigma	SG12180FP or SP121-18 or 2019 Battery Rookie	1	No specific source	

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SEPARATE ITEMS

<input checked="" type="checkbox"/>	Item Description	Supplier	Part Number	Qty	Where to get more?	Photo
	VEXpro Motor Box					
	BAG Motor	Innovation First International	217-3351	1	www.vexpro.com	
	CIM Motor	Innovation First International	217-2000	2	www.vexpro.com	
	MiniCIM Motor	Innovation First International	217-3371	1	www.vexpro.com	
	Cable Retaining Clips Pack of 10	Innovation First International	276-4128	1	www.vexpro.com	 <small>Photo: VEXpro</small>