

	Description	QTY	Vendor	Vendor Part Number	Notes
3D Printed Parts					
	Main Body, STAR	1			Need to install 3x M2 heat-set inserts
	Wing, STAR	1			Need to install 4x M2 heat-set inserts
	Mirrored Wing, STAR	1			Need to install 4x M2 heat-set inserts
	Spur Gear, STAR	18			Need to install 1x M2 heat-set insert into each
	Combo Bevel and Spur Gear, STAR	2			Need to install 1x M2 heat-set insert into each
	Bevel Gear, STAR	2			Need to install 1x M2 heat-set insert into each
	Wheel Motor Mount Bracket, STAR	1			
	Mirrored Wheel Motor Mount Bracket, STAR	1			
	Wheel, STAR	6			
	Gear Cap, STAR	14			
	Sprawl Support Bar, STAR	1			
	Outer Pulley, STAR	2			Need to install 1x M2 heat-set insert into each
	Sprawl Motor Gear, STAR	1			Need to install 1x M2 heat-set insert into each
	Sprawl Middle Gear, STAR	1			
	Sprawl Motor Mount Bracket, STAR	1			
	Sprawl Middle Gear Mount Bracket, STAR	1			
Electronics					
	Arduino Pro Mini	1	Sparkfun	11114	Need to buy male headers also and FTDI Breakout (see below)
	Dual Axis Motor Driver	1	Pololu	2135	
	Single Axis Motor Driver	1	Pololu	2990	
	Wheel Motor	2	Digikey	COM0805	Can get without PCB from Pimoroni if desired
	Sprawl Motor	1	Digikey	COM0806	Can get without PCB from Pimoroni if desired
	RC Reciever (Flysky FS-X6B 6CH Receiver)	1	Amazon	https://www.amazon.com	Comes with cable
	RC Transmitter	1	Banggood	FS-i6	Took forever to arrive...you have been warned.
	Logic Battery	1	Adafruit	1314	
	Motor Batteries	2	Amazon	https://www.amazon.com	Run 2x Crazepony in series (differs from what is shown in videos)
	Motor Cables	4	Digikey	BC-32671	
	Logic Battery Cable	1	Digikey	1131	Recommend buying extras
	Motor Battery Cables	1	Amazon	https://www.amazon.com	1 pack- need to make harness to put 2X Crazepony batteries in series
	FTDI Basic Breakout - 3.3V	1	Sparkfun	9873	Programming adaptor for Pro Mini. Need to buy male headers also.
	Protoboard, Double Sided	1	Digikey	FIT0193	Has built in power bus.
	Adadfruit Lipo USB charger	1	Adafruit	1304	For charging Logic battery
Hardware					
	Timing Belt	2	McMaster	1679K167	Recommend buying extras. 1/8" Width, Trade No. 45mxl012
	Dowel Pin, 2mm Diameter x 12mm Long	2	McMaster or Equiv		
	Dowel Pin, 2mm Diameter x 14mm Long	2	McMaster or Equiv		
	Dowel Pin, 2mm Diameter x 18mm Long	2	McMaster or Equiv		
	Dowel Pin, 2mm Diameter x 24mm Long	1	McMaster or Equiv		Sprawl Middle Gear dowel pin

	Description	QTY	Vendor	Vendor Part Number	Notes
	Dowel Pin, 3mm Diameter x 18mm Long	1	McMaster or Equiv		Sprawl Motor Gear dowel pin
	Set Screw				
	M2 x 3mm Cup Point	10	McMaster or Equiv		
	FHS				
	Flat Head Screw, M1.6 x 5mm Long	6	McMaster or Equiv		
	Flat Head Screw, M2 x 8mm Long	16	McMaster or Equiv		Attach gear caps. Also use these on the Sprawl Middle pulley/gear to avoid interferences with the Protoboard.
	Flat Head Screw, M2 x 10mm Long	6	McMaster or Equiv		Wheel screws
	SHCS				
	Socket Head Cap Screw M2 x 4mm	3	McMaster or Equiv		Attached Protoboard to Main Body
	Socket Head Cap Screw M2 x 6mm	4	McMaster or Equiv		Attach wing motor mounts
	M2 Washers		McMaster or Equiv		Use as needed (all motor mount brackets!)
	M2 Heat-set inserts		McMaster or Equiv	94180A307	Can use soldering iron to install. McMaster also has special tool you can buy to help install these.
	Silicone Grease	1			See hardware store. Also known as plumber's grease. Used to grease the hubs of all the gears.
Helpful Items					
	Velcro				For Logic Battery
	Double Stick Tape				For Motor Batteries
	Zip Ties				Keeping wiring low profile
	Heat shrink wrap				