Table 1

Part Name	Number	Color	Notes
Solar Panel			
Solar Panel Front	1	White/Copper/Black	
Solar Panel Rear	1	White/Copper/Black	
Solar Panel Body Interface	1	Gold	Screw to underside of solar panel segments, 7 - M3x8mm, 6 - M3x12mm
Solar Panel Sides- Black	1	Black	Glue on
Solar Panel Sides- White	1	White	Glue on
Solar Panel Side Badge	2	Red	Glue on
Solar Panel Side Badge	2	Copper	Glue on
Solar Panel Side Badge	2	Green	Glue on
Solar Panel Side Badge	2	Blue	Glue on
Solar Panel Side Badge	2	Orange	Glue on
Front Bumper - White	1	White	Glue on
Front Bumper - Black	1	Black	Glue on
Rear Bumper - White	1	White	Glue on
Rear Bumper - Black	1	Black	Glue on
Upper Bumper Mount	6	Black	Glue on
Antenna Base	1	Aluminum	Glue on
Antenna Park Mount	1	Aluminum	Glue on
Antenna Lower	1	Aluminum	Glue on
Antenna Upper	1	White	Glue on
Solar Panel Side Mount Bracket	2	Aluminum	Attach to solar panel and body using M2 screws
Joystick Interface	1	Copper	Glue on
Joystick Box	1	Black/Gold	4 - M2 x 8mm screws
Body			
Body	1	Gold	5 - M2 screws for visual effect
Body Bottom Plate	1	Gold	Attach using 11 - M3 screws
Wire Interface Mount	1	Aluminum	Attach using 4 - M2 screws
Cable Tie-down	11	Black	Glue on
Front Bumper Lower - White	1	White	Glue on
Front Bumper Lower - Black	1	Black	Glue on
Front Bumper Mount Lower	3	Black	Glue on
Front Bumper Mount Sensor	3	Aluminum	Glue on
L298N Board Mount	2	anything	Glue on, any mount you choose
Arduino Uno Mount	1	anything	Glue on, any mount you choose
Circuit Board Mount	1	anything	Glue on, holds main circuit board
Suspension			
Rocker Arm Right	1	Aluminum	2- 623zz rocker to bogie
Bogie Arm Right	1	Aluminum	1 - M3 x 25mm screw and locknut
Rocker Arm Left	1	Aluminum	2- 623zz rocker to bogie
Bogie Arm Left	1	Aluminum	1 - M3 x 25mm screw and locknut
Bogie Arm End Cap	2	Black	Held on with screw
Middle Wheel End Cap	2	Black	1 - M3 x 45mm screw and 1 - M3 nut

Part Name	Number	Color	Notes
Wheel Arm Front	2	Aluminum	1 - 6703zz bearing each, 2 - M1.6 x 4mm each for motor For use with motors
Wheel Arm Front No Motor	2	Aluminum	Use if not using motors.
Wheel Arm Rear	2	Aluminum	1 - 6703zz bearing each, 2 - M1.6 x 4mm each for motor For use with motors.
Wheel Arm Rear No Motor	2	Aluminum	Use if not using motors.
Rocker Arm Pivot Shaft with Flange	2	Black	2 - 6701zz bearings with flange per shaft, 1 - M3 x 50mm screw, 1 - M3 nut
Rocker Arm Pivot Shaft	0	Black	For bearings without flange
Rocker Arm Pivot Shaft Outer End Cap	2	Black	1 - M3 screw
Rocker Arm Pivot Shaft Inner End Cap	2	Black	1 - locknut
Rocker Arm Pivot Plate	2	Aluminum	Glue on
Rocker Arm Collapse Mechanism	2	Aluminum	2 - M2 x 6mm screws each
Rocker Stabilizer Cross Bar	1	Aluminum	1 - M2 screw
Rocker Stabilizer Bar Mount	1	Aluminum	Glue on
Rocker Stabilizer Bar Attachment	2	Aluminum	M2 threaded rod, 3 locknuts, 3 - M2 x 8mm screw
Wheel Corner	4	Aluminum	8 - M2 screws each, 2 - 6703zz bearing each corner wheel For use with motors.
Wheel Corner No Motor	4	Aluminum	Use if no wheel motors are used. Use M3x10mm screws and lock nuts.
Wheel Middle	2	Aluminum	8 - M2 screws each, 2 - 6700zz bearing each middle wheel
Wheel Tread	5	Steel Grey	Glue on
Wheel Tread with Stripe	1	Grey	Glue on
Wheel Tread with Stripe - Black	1	Black	Print with Wheel Tread with Stripe
Wheel Tread with Stripe - Silver	1	Silver	Print with Wheel Tread with Stripe
Fake Stepper Motor	4	Silver	Replaces real stepper motor. Use M3x10mm screws and lock nuts.
Instruments			
Front Camera	2	Aluminum/Black	Last layer black
Front Laser	5	Black	Wire hole in back
Front Laser Mount	5	Aluminum	Glue on
Camera Mounting Bar	1	Aluminum	Attach using 2 - M1.6 x 3mm
Camera Bar Mount	2	Aluminum	Glue on
Rear Camera	1	Aluminum/Black	Last layer black
Rear Camera Mount	1	Aluminum	Glue on
Camera Interface Module	1	Aluminum	Glue on
Camera Interface Module Support	1	Aluminum	Glue on
Rotation Sensor Base	5	Aluminum/Black/Aluminum	Glue on, 4 - M1.4 x 3mm
Rotation Sensor End	5	Black/Gold/Black	Glue on
X-Ray Spectrometer			
X-Ray Spectrometer Body	1	Aluminum	Attach to support using 3 - M2x35mm threaded rod
X-Ray Spectrometer Outer Ring	1	Aluminum	Glue on
X-Ray Spectrometer Side Junction Boxes	1	Black	Glue on
X-Ray Spectrometer Back	1	Gold	Glue on
X-Ray Spectrometer Body Mounts	1	Aluminum	Glue on
X-Ray Spectrometer Inner Sensor	1	Gold	Glue on

Part Name	Number	Color	Notes
X-Ray Mount Tray	1	Black	Glue on
X-Ray Mount Tray Supports - Right	1	Silver	Glue on
X-Ray Mount Tray Supports - Left	1	Silver	Glue on
X-Ray Extending Motor	1	Silver/Black	Glue on
X-Ray Spectrometer Mount	1	Black	Glue on
X-Ray Extending Mechanism	1	Black	Glue on
X-Ray Interface Mount	1	Aluminum	Glue on
X-Ray Wire Interface	4	Gold	Glue on
Total Parts	143		

Table 1

Part	Quantity	Description	Screws (if required)
Ardiuno Uno	1	The brains of the operation	4 - M2.5 x 4mm screws
9V Battery Connector	1		
5v DC Motors 10 RPM	4	excel micro gear motor, 10RPM, 6V DC	2 - M1.6 x 3mm screws
Micro Stepper Motors	4	5V 4-wire micro stepper motor	2 - M2 x 4mm screws
L298N Motor Controllers	2		
A4988 Stepper Motor Controllers	4		
Joystick	1	Potentiometer JH-D202X-R2/R4 5K 10K ohm 2-axis Sealed PTZ	Screws included
6700zz Bearing	4		
6701zz Bearing	4		
6702zz Bearing	0		
6703zz Bearing	12		
623zz Bearing	4		
JST Female 4-conductor connector	1	Used to connect the joystick	
JST Male 4-conductor connector	5	Used to connect to the stepper motors and the joystick	
circuit board: 8 x 10 hole	1	Holds body connectors	4 - M1.6 x 4mm screws
circuit board: 15 x 47 hole	1	Mounts A4988 controllers and other misc. electronics.	4 - M1.6 x 4mm screws