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## Stage 1

	Nose cone	Polypropylene (0.86 g/cm <sup>3</sup> )	Ogive	Len: 41.9 cm	Mass: 298 g
	Inner Tube	Cardboard (0.68 g/cm <sup>3</sup> )	Dia <sub>in</sub> 7 cm Dia <sub>out</sub> 9 cm	Len: 15 cm	Mass: 256 g
	JollyLogic Altimeter3		Dia <sub>out</sub> 1.8 cm		Mass: 10.5 g
	Mobius Action Camera		Dia <sub>out</sub> 2.54 cm		Mass: 38.8 g
	PCB with Teensy, IMU, ESP8266, GPS module		Dia <sub>out</sub> 2.5 cm		Mass: 20 g
	Sled		Dia <sub>out</sub> 2.5 cm		Mass: 100 g
	6.0V battery		Dia <sub>out</sub> 2.5 cm		Mass: 60 g
	3.3V battery		Dia <sub>out</sub> 2.5 cm		Mass: 60 g
	Fore body tube	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Dia <sub>in</sub> 9.94 cm Dia <sub>out</sub> 10.2 cm	Len: 53 cm	Mass: 140 g
	Ejection charge wire		Dia <sub>out</sub> 0.5 cm		Mass: 10 g
	Servo 1		Dia <sub>out</sub> 4 cm		Mass: 27 g
	Servo 1 wire		Dia <sub>out</sub> 0.5 cm		Mass: 2 g
	Stabilizer canard 1 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 3.56 g
	Servo 2		Dia <sub>out</sub> 4 cm		Mass: 27 g
	Servo 2 wire		Dia <sub>out</sub> 0.5 cm		Mass: 2 g
	Stabilizer canard 2 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 3.56 g
	Servo 3		Dia <sub>out</sub> 4 cm		Mass: 27 g
	Servo 3 wire		Dia <sub>out</sub> 0.5 cm		Mass: 2 g
	Stabilizer canard 3 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 3.56 g
	Servo 4		Dia <sub>out</sub> 4 cm		Mass: 27 g
	Servo 4 wire		Dia <sub>out</sub> 0.5 cm		Mass: 2 g
	Stabilizer canard 4 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 3.56 g

	Tube coupler	Kraft phenolic (0.95 g/cm <sup>3</sup> )	Dia <sub>in</sub> 9.74 cm Dia <sub>out</sub> 9.94 cm	Len: 20 cm	Mass: 58.7 g
	Upper bulkhead	Balsa (0.17 g/cm <sup>3</sup> )	Dia <sub>out</sub> 9.74 cm	Len: 0.59 cm	Mass: 7.47 g
	Ejection charge bulkhead	Balsa (0.17 g/cm <sup>3</sup> )	Dia <sub>out</sub> 9.74 cm	Len: 0.59 cm	Mass: 7.47 g
	Outer bulkhead	Balsa (0.17 g/cm <sup>3</sup> )	Dia <sub>out</sub> 9.74 cm	Len: 0.59 cm	Mass: 7.47 g
	Ejection charge		Dia <sub>out</sub> 2.5 cm		Mass: 10 g
	Bulkhead	Balsa (0.17 g/cm <sup>3</sup> )	Dia <sub>out</sub> 9.94 cm	Len: 0.59 cm	Mass: 7.78 g
	Aft body tube	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Dia <sub>in</sub> 9.94 cm Dia <sub>out</sub> 10.2 cm	Len: 91 cm	Mass: 241 g
	Nomex wrapper	Nomex (111 g/m <sup>2</sup> )	Dia <sub>out</sub> 60 cm	Len: 1 cm	Mass: 31.4 g
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)	Lines: 0	Len: 30 cm	
	Chute release		Dia <sub>out</sub> 2.5 cm		Mass: 17.5 g
	Shock cord	1500lb Kevlar (6.51 g/m)		Len: 200 cm	Mass: 13 g
	Drogue chute	Ripstop nylon (67 g/m <sup>2</sup> )	Dia <sub>out</sub> 34 cm	Len: 2.5 cm	Mass: 9.32 g
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)	Lines: 6	Len: 30 cm	
	Main chute	Ripstop nylon (67 g/m <sup>2</sup> )	Dia <sub>out</sub> 121 cm	Len: 10.5 cm	Mass: 116 g
	Shroud Lines	Tubular nylon (11 mm, 7/16 in) (13 g/m)	Lines: 6	Len: 50 cm	
	Fore rail button		Dia <sub>out</sub> 1 cm		Mass: 4.8 g
	Centering ring 1	Plywood (birch) (0.63 g/cm <sup>3</sup> )	Dia <sub>in</sub> 5.6 cm Dia <sub>out</sub> 9.94 cm	Len: 0.55 cm	Mass: 18.4 g
	Motor mount	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Dia <sub>in</sub> 5.38 cm Dia <sub>out</sub> 5.6 cm	Len: 50 cm	Mass: 72.2 g
	Aft rail button		Dia <sub>out</sub> 1 cm		Mass: 4.8 g
	Centering ring 2	Plywood (birch) (0.63 g/cm <sup>3</sup> )	Dia <sub>in</sub> 5.6 cm Dia <sub>out</sub> 9.94 cm	Len: 0.55 cm	Mass: 18.4 g
	Main fin 1 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 38.1 g

	Main fin 2 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 38.1 g
	Main fin 3 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 38.1 g
	Main fin 4 (1)	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Thick: 0.25 cm		Mass: 38.1 g
	Centering ring 3	Plywood (birch) (0.63 g/cm <sup>3</sup> )	Diain 5.6 cm Diaout 9.94 cm	Len: 0.55 cm	Mass: 18.4 g
	Boat tail	US Composites CFRP (0.761 g/cm <sup>3</sup> )	Fore Dia: 10.2 cm Aft Dia: 5.6 cm	Len: 4.5 cm	Mass: 10.3 g

