

## EJA v2 Production Planning

*Please read through and observe the notes - choose which options and pieces you want fabricated for your model!*

Last updated: Nov. 4, 2021

Useful Links:  
[hackaday.io project page](https://hackaday.io/project/100000)  
[Design Github repository](#)  
[Electronics Github repository](#)

Component	Quantity	Status <small>(ready / in progress / tested)</small>	Status Comment	Material	Fabrication	Notes	File
<b>LOWER STAGE</b>							
Base (Option A)	1			Aluminum 1/8"	Waterjet		<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/lower_stage">https://github.com/RobotGrrl/EJA_v2/tree/main/lower_stage</a>
Base (Option B)	1			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_base.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_base.dxf</a>
Rubber bumpers	12			Rubber 1/8"	Laser cutting		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_bumper.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_bumper.dxf</a>
Stands	6			Nylon	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/stand.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/stand.stl</a>
Washers (Option A)	20			Aluminum 1/8"	Waterjet		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_washer.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_washer.dxf</a>
Washers (Option B)	20			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_washer.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/lower_stage_washer.dxf</a>
Ballast (1/2 in) — <i>Not needed</i>	1			Aluminum 1/2"	Waterjet	Unused based on Field Test results Based on 2" stock Estimated mass = 247.117 g	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf</a>
Ballast (1/4 in) — <i>Not needed</i>	2			Aluminum 1/4"	Waterjet	Unused based on Field Test results Based on 2" stock	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf</a>
Ballast (1/8 in) — <i>Not needed</i>	6			Aluminum 1/8"	Waterjet	Unused based on Field Test results Based on 2" stock	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/lower_stage/ballast.dxf</a>
<b>BASE STAGE</b>							
Rotor	2			Aluminum	Tormach		<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/base_stage">https://github.com/RobotGrrl/EJA_v2/tree/main/base_stage</a>
GoPro — <i>Not needed</i>	1			Aluminum	Tormach		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/gopro.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/gopro.stl</a>
Base (Option A)	1			Aluminum 1/8"	Waterjet		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/base.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/base.dxf</a>
Base (Option B)	4			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/base.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/base.dxf</a>
HDPE Handle	2			HDPE 3/8" or 1/4"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/hdpe_handle.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/hdpe_handle.dxf</a>
Sleeve	2			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/sleeve.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/sleeve.dxf</a>
Arm	2			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/arm.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/arm.dxf</a>
Clasp (Option A)	4			Delrin 1/8"	Shopbot		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/clasp.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/clasp.dxf</a>
Clasp (Option B)	4			Aluminum 1/8"	Waterjet		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/clasp.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/clasp.dxf</a>
Holder	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder.stl</a>
Holder Mirror	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder_mirror.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder_mirror.stl</a>
Sleeve-Base Bracket	2			Nylon	3D Printing	Going with Nylon, could also go with ASA	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/sleeve_base_bracket.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/sleeve_base_bracket.stl</a>
Spool Holder	1			Nylon / PLA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/spool_holder.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/spool_holder.stl</a>
Spool Holder Mirror	1			Nylon / PLA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/spool_holder_mirror.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/spool_holder_mirror.stl</a>
Bumpers	18			Rubber 1/8"	Laser cutting		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/bumper.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/bumper.dxf</a>
Rubber L — 10 cm	1			Rubber 1/8"	Laser cutting	The one used in Field Test model was 10 cm These are in increments of 3 mm	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/large_rubber_belt_array.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/large_rubber_belt_array.dxf</a>
Rubber R — 13.2 cm	1			Rubber 1/8"	Laser cutting	The one used in Field Test model was 13.2 cm These are in increments of 3 mm	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/small_rubber_belt_array.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/small_rubber_belt_array.dxf</a>
Holder Foam	1			Foam	Laser cutting	<a href="https://www.mcmaster.com/7503N61/">https://www.mcmaster.com/7503N61/</a>	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder_foam.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/holder_foam.dxf</a>
Rope guide (Option A)	1			Nylon	3D Printing	This is the option that was used on the Field Test model	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide.stl</a>
Rope guide (Option B)	1			Polycarbonate 1/4"	Waterjet	Requires 2x 90 degree bends	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide_unfolded.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide_unfolded.dxf</a>
Rope guide (Option C)	1			Acrylic 1/4"	Laser cutting	Requires 2x 90 degree bends	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide_unfolded.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/rope_guide_unfolded.dxf</a>
Washers	0			Aluminum 1/8"	Waterjet	All washers are included in lower stage	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/washer.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/base_stage/washer.dxf</a>
<b>DECK STAGE</b>							
Base	1			Wood 1/2"	Shopbot	Engravings / pockets on both sides	<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/deck_stage">https://github.com/RobotGrrl/EJA_v2/tree/main/deck_stage</a>
<b>EXTERNAL BUOY</b>							
Clamp	2			Nylon	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/clamp_A4.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/clamp_A4.stl</a>

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Foam — <i>Not used</i>	1			Foam	Laser cutting	Used electrical tape around buoy in Field Test version Same foam as Base stage ( <a href="https://www.mcmaster.com/7503N61/">https://www.mcmaster.com/7503N61/</a> )	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/foam.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/foam.dxf</a>
Handle	1			Aluminum 1/4"	Waterjet		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/handle.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/external_buoy/handle.dxf</a>
<b>INTERNAL BUOY</b>							
Bracket (Option A)	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/internal_buoy">https://github.com/RobotGrrl/EJA_v2/tree/main/internal_buoy</a> <a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/metal_bracket_unfolded.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/metal_bracket_unfolded.dxf</a>
Bracket (Option B)	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/metal_bracket.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/metal_bracket.stl</a>
O-ring (Option A)	1			Nylon	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_A5.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_A5.stl</a>
O-ring (Option B)	1			HDPE / Delrin	Tormach		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_milled.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_milled.stl</a>
O-ring Jig (Option B)	1			Anything 1/8"	Waterjet or Laser	This is a jig to align the mounting holes for the o-ring milled option	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_1.8_internal_milled_jig.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_buoy/o-ring_1.8_internal_milled_jig.dxf</a>
<b>EXTERNAL WIPER</b>							
Seatbelt	1			Nylon	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/external_wiper">https://github.com/RobotGrrl/EJA_v2/tree/main/external_wiper</a> <a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/seatbelt.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/seatbelt.stl</a>
Metal	1			Aluminum 1/8"	Waterjet	Requires 2x 90 degree bends	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/metal_unfolded.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/metal_unfolded.dxf</a>
Magnet holder	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/magnet_holders/external_magnet_holder.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/magnet_holders/external_magnet_holder.stl</a>
Cap	1			Nylon	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/cap.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/cap.stl</a>
Gasket	1			Rubber 1/16"	Laser cutting	<a href="https://www.mcmaster.com/86215K12/">https://www.mcmaster.com/86215K12/</a>	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/gasket.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/external_wiper/gasket.dxf</a>
<b>SERVO MODULE</b>							
Please use v1	1			PLA-PHA	3D Printing	v1 is stable, whereas v2 needs some modifications to work. There are 5 pieces to print in v1	<a href="https://github.com/RobotGrrl/EJA_v2/tree/main/servo_module/v1">https://github.com/RobotGrrl/EJA_v2/tree/main/servo_module/v1</a>
Bracket front	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_front.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_front.stl</a>
Bracket back	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_back.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_back.stl</a>
Bracket key	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_key.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_key.stl</a>
Bracket mate	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_mate.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_mate.stl</a>
Bracket mount	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_mount.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/servo_module/bracket_mount.stl</a>
<b>INTERNAL WIPER</b>							
Magnet holder	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/magnet_holders/internal_magnet_holder.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/magnet_holders/internal_magnet_holder.stl</a>
Brace — <i>Not used</i>	1			PLA-PHA	3D Printing		<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/brace.stl">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/brace.stl</a>
Metal wiper A	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_a.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_a.dxf</a>
Metal wiper B — <i>Use this one!</i>	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_b.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_b.dxf</a>
Metal wiper C	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_c.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_c.dxf</a>
Metal wiper D	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_d.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_d.dxf</a>
Metal wiper E	1			Aluminum 1/8"	Waterjet	Requires 1x 90 degree bend	<a href="https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_e.dxf">https://github.com/RobotGrrl/EJA_v2/blob/main/internal_wiper/metal_wiper_e.dxf</a>