



DragonPlate™

Assembly Instructions

DragonPlate Quadcopter Instructions

DragonPlate is proud to present our take on the quad-copter design. Using standard Dragonplate products and unique connection system, you can build your own carbon fiber quad-copter frame. These instructions are meant to guide you with the cutting and assembly but should you wish to customize your design, have at it! (motors, batteries, and controllers not included)





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Assembly Instructions

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NOTE: WHEN PRINTING THIS DOCUMENT, BE SURE TO PRINT ACTUAL SIZE

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Assembly Instructions

Deluxe DIY Instructions

KIT CONTENTS

- Birch Core – Matte Finish 12" x 12"
- 0.5" Pultruded Carbon Fiber Tube— 48" Length
- 0.25" Pultruded Carbon Fiber Tube— 48" Length
- 1/32"x1/2"x24" Quasi-Isotropic Carbon Fiber Angle
- 0.5" Horizontal Tube Flange
- Qty(12) Short Bolts
- Qty(4) Long Bolts

CUTTING AND PREP

Birch Core – Matte Finish

- Using templates found in the back, cut profile of body pieces, mounting holes for flanges, landing legs, and holes for 0.25" Pultruded Carbon Fiber Tubing. NOTE: Upper platform can be cut to fit customer hardware if need be
- Tape around area designated for bonding the angles (located across from each other) and sand the remaining exposed areas. Clean and wipe sanded area with alcohol and rag. Keep area taped.
- Tape off area on the legs meant to bond the angles. Sand and clean both exposed sides.

0.5" Pultruded Carbon Fiber Tube

- Cut down into qty(4) 8" lengths

0.25" Pultruded Carbon Fiber Tubes

- Cut down into qty(2) 9.5" Lengths
- Cut remainder down into qty(4) 1.5" lengths

Flanges

- Use mounting holes from the cut body to mark and drill holes on qty(4) flanges
- On the remaining flanges, mark and drill necessary mounting hole locations using motors (not included)

Angles

- Lightly sand and clean bonding surfaces:
 - Qty(2) will be sanded on the interior
 - Qty(2) will be sanded on the exterior



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Deluxe DIY Instructions

COMPONENT EPOXY AND ASSEMBLY

Arms

- Attach flanges to both sides of the tube, keeping the ends flush, and mark the inner edge of the flange on the radius of the tube.
- Wrap the tube in tape at the mark such that the ends are exposed.
- Sand and clean both ends.
- Apply epoxy inside channel of flange and on the outside of the tube.
- Slowly insert tubing into both flanges until the tube ends are flush with the edge of the flange. Be sure to keep the hole clear of epoxy. Using a rag soaked with alcohol, clean up the edges and excess epoxy
- With both flanges cleaned of excess epoxy, carefully lay the assembly on a flat surface such that the flanges bond parallel to the surface. NOTE: If the flanges do not bond in line with each other, the copter will not hover properly

Body and Legs

- Dry fit the two angles that will be bonded to the surface of the body to verify the correct pieces are being bonded together. The sanded surfaces should be in contact with each other.
- Apply epoxy to both sanded areas of the body and corresponding surface of the angle.
- Place the angles on the surface allowing for some epoxy to run out and clean the surface
- Carefully lay the body upside down and allow the epoxy to set.
- Attach the legs one at a time by turning the frame on its side, with the angle against the flat surface.
- Apply epoxy to the leg and angle surfaces and join them together such that the top of the leg piece is flush with the surface of the body.
- Use a shim (such as stacked paper) to keep the leg level while the epoxy cures.
- Once set, apply epoxy to the entire outside surface of one of the remaining angles and the inside of the leg.
- With the body face down against the flat surface, set the angle in place firmly, wiping off the excess epoxy.
- Once the first leg is set and the epoxy has been given enough time to fully cure, repeat the process for applying the remaining leg.
 - While setting the leg against the first angle piece, run the pultruded tubing between the first and second leg to ensure placement of the tube is even.



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Assembly Instructions

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FINAL ASSEMBLY

Arms to body

- Using qty(12) short bolts, attach the arms to the body keeping in mind that each arm requires a hole for the upper body plate and standoff tubes.
- For added stability, one can epoxy the arms to the plate while bolting. This will make the arms permanent but will improve flight for long term life.

Upper body

- Run the qty(4) long bolts up through the body, place the 1.5" length tubes over the threads, mount the upper body plate, and tighten the nuts at the top.
- Being the last step, this can be done once the hardware has been added.





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Assembly Instructions

Deluxe Ready-To-Assemble Instructions

KIT CONTENTS

Birch Core – Matte Finish - Main body and Upper Body Plates
0.5” Pultruded Carbon Fiber Tube— qty(4) 8” Lengths
0.25” Pultruded Carbon Fiber Tube— qty(2) 9.5” Lengths and qty(4) 1.5” Lengths
Qty(2) 1/32”x1/2”x2” Quasi-Isotropic Carbon Fiber Angle
Qty(8) 0.5” Horizontal Tube Flange (qty(4) with pre-drilled bolt pattern)
Qty(12) Short Bolts
Qty(4) Long Bolts

PREP

Birch Core – Matte Finish

- Tape around area designated for bonding the angles (located across from each other) and sand the remaining exposed areas. Clean and wipe sanded area with alcohol and rag. Keep area taped.
- Tape off area on the legs meant to bond the angles. Sand and clean both exposed sides.

Flanges

- On the qty(4) blank flanges, mark and drill necessary mounting hole locations using motors (not included)

Angles

- Lightly sand and clean bonding surfaces:
 - Qty(2) will be sanded on the interior
 - Qty(2) will be sanded on the exterior



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Assembly Instructions

Deluxe Ready-To-Assemble Instructions

PREP and EPOXY

Arms

- Attach flanges to both sides of the tube, keeping the ends flush, and mark the inner edge of the flange on the radius of the tube.
- Wrap the tube in tape at the mark such that the ends are exposed.
- Sand and clean both ends.
- Apply epoxy inside channel of flange and on the outside of the tube.
- Slowly insert tubing into both flanges until the tube ends are flush with the edge of the flange. Be sure to keep the hole clear of epoxy. Using a rag soaked with alcohol, clean up the edges and excess epoxy
- With both flanges cleaned of excess epoxy, carefully lay the assembly on a flat surface such that the flanges bond parallel to the surface. NOTE: If the flanges do not bond in line with each other, the copter will not hover properly

Body and Legs

- Dry fit the two angles that will be bonded to the surface of the body to verify the correct pieces are being bonded together. The sanded surfaces should be in contact with each other.
- Apply epoxy to both sanded areas of the body and corresponding surface of the angle.
- Place the angles on the surface allowing for some epoxy to run out and clean the surface
- Carefully lay the body upside down and allow the epoxy to set.
- Attach the legs one at a time by turning the frame on its side, with the angle against the flat surface.
- Apply epoxy to the leg and angle surfaces and join them together such that the top of the leg piece is flush with the surface of the body.
- Use a shim (such as stacked paper) to keep the leg level while the epoxy cures.
- Once set, apply epoxy to the entire outside surface of one of the remaining angles and the inside of the leg.
- With the body face down against the flat surface, set the angle in place firmly, wiping off the excess epoxy.
- Once the first leg is set and the epoxy has been given enough time to fully cure, repeat the process for applying the remaining leg.
 - While setting the leg against the first angle piece, run the pultruded tubing between the first and second leg to ensure placement of the tube is even.



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Assembly Instructions

Deluxe Ready-To-Assemble Instructions

FINAL ASSEMBLY

Arms to body

- Using qty(12) short bolts, attach the arms to the body keeping in mind that each arm requires a hole for the upper body plate and standoff tubes.
- For added stability, one can epoxy the arms to the plate while bolting. This will make the arms permanent but will improve flight for long term life.

Upper body

- Run the qty(4) long bolts up through the body, place the 1.5" length tubes over the threads, mount the upper body plate, and tighten the nuts at the top.
- Being the last step, this can be done once the hardware has been added.





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Assembly Instructions

Standard DIY Instructions

KIT CONTENTS

Birch Core – Matte Finish 6" x 6"
0.5" Pultruded Carbon Fiber Tube— 48" Length
0.5" Horizontal Tube Flange
Qty(16) Short Bolts

CUTTING AND PREP

Birch Core – Matte Finish

- Using template found on our website, cut profile of body piece and mounting holes for flanges

0.5" Pultruded Carbon Fiber Tube

- Cut down into qty(4) 8" lengths

Flanges

- Use mounting holes from the cut body to mark and drill holes on qty(4) flanges
- On the remaining flanges, mark and drill necessary mounting hole locations using motors (not included)

COMPONENT EPOXY AND ASSEMBLY

Arms

- Attach flanges to both sides of the tube, keeping the ends flush, and mark the inner edge of the flange on the radius of the tube.
- Wrap the tube in tape at the mark such that the ends are exposed.
- Sand and clean both ends.
- Apply epoxy inside channel of flange and on the outside of the tube.
- Slowly insert tubing into both flanges until the tube ends are flush with the edge of the flange. Be sure to keep the hole clear of epoxy. Using a rag soaked with alcohol, clean up the edges and excess epoxy
- With both flanges cleaned of excess epoxy, carefully lay the assembly on a flat surface such that the flanges bond parallel to the surface. NOTE: If the flanges do not bond in line with each other, the copter will not hover properly



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Assembly Instructions

Deluxe DIY Instructions

FINAL ASSEMBLY

Arms to body

- Using qty(16) short bolts, attach the arms to the body keeping in mind that each arm requires a hole for the upper body plate and standoff tubes.
- For added stability, one can epoxy the arms to the plate while bolting. This will make the arms permanent but will improve flight for long term life.





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Assembly Instructions

Standard Ready-to-Assemble Instructions

KIT CONTENTS

- Birch Core – Matte Finish— Body Frame
- 0.5” Pultruded Carbon Fiber Tube— Qty(4) 8” Lengths
- Qty(8) 0.5” Horizontal Tube Flange (qty(4) with pre-drilled bolt pattern)
- Qty(16) Short Bolts

CUTTING AND PREP

Flanges

- On the remaining flanges, mark and drill necessary mounting hole locations using motors (not included)

COMPONENT EPOXY AND ASSEMBLY

Arms

- Attach flanges to both sides of the tube, keeping the ends flush, and mark the inner edge of the flange on the radius of the tube.
- Wrap the tube in tape at the mark such that the ends are exposed.
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FINAL ASSEMBLY

Arms to body

- Using qty(16) short bolts, attach the arms to the body keeping in mind that each arm requires a hole for the upper body plate and standoff tubes.
- For added stability, one can epoxy the arms to the plate while bolting. This will make the arms permanent but will improve flight for long term life.







