

EZ Build Dragster



User Guide

PITSCO
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The EZ Build CO₂ Dragsters are ideal for schools that want to demonstrate the technology and science of the dragster activity – but without the need for hand tools.

Cut with a laser, the parts of these dragsters are precise and, when built with construction glue and following proper construction steps, are as tough and durable as most other dragsters built with standard methods and materials. We tested these dragsters, and they were still going strong after 100 launches with eight-gram cartridges.

Though students do not need hand tools, they can still opt to round the edges with sandpaper and give their dragster a custom finish.

There are four different kit designs to choose from, but they all assemble the same. Thus, the instructions that follow can be used with any of the four designs.

Included Materials

- Basswood sheet with laser-cut parts
- Plywood sheet with laser-cut parts
- 4 screws
- 4 axle bushings
- 8-gram CO₂ cartridge
- 2 screw eyes
- 2 axles
- 2 front wheels
- 2 rear wheels

Also Required (not included)

- Pitsco CO₂ race system (such as the Impulse GII, Pulse II, i-race, Palm Racer, or EZ Start systems)
- White construction glue, such as HD Bond Adhesive
- Very small Phillips screwdriver
- Sandpaper
- Paint (optional)
- Small nail or T-pin (optional)

Building the Dragster Body

1. Pop out the dragster body and nose from the basswood sheet. Glue the nose onto the front of the body so the marks on the two pieces form an X (Figure 1).
2. Pop out the pieces from the plywood sheet. Take the two Part 2 and four Part 1 pieces. Glue a Part 1 over each notched side of a Part 2 – but make sure the axle hole on each Part 1 is aligned with the flat end of Part 2 (Figure 2). Let these two assemblies dry.
3. Take Part 4 and slip it into the groove on the back of the dragster body (Figure 3). Make sure Part 4 is pushed all the way into the body so it is flush with the back of the dragster.



Figure 1



Figure 2



Figure 3

4. Apply glue in the notches on the underside of the dragster. Place the Part 1 and 2 assemblies into these notches so the axle holes are closer to the dragster's nose (Figure 4). Be sure not to get glue into the axle holes. Before the glue dries, tighten the screws into the predrilled holes on the underside of the Part 1 and 2 assemblies. Let the dragster dry completely.



Figure 4

5. Take Part 5 and glue it over the four pieces that extend from the back of the dragster. Make sure the wide notches line up with the basswood body pieces and the narrow notches line up with Part 4 (Figure 5).
6. If you wish to finish the dragster, do so at this time. You can sand down the edges for a smoother look and apply coats of paint or another finish as desired.
7. Screw in the screw eyes under the body. The screw eyes go on the lowest points on the underside of the dragster. One goes in front of the rear wheel axle holes (Figure 5) and the other before of the front wheel axle holes. Make sure the screw eye is centered on the thickness of the body, and that it is inserted straight into the wood so the point of the screw eye does not poke out the side of the body. The holes of the screw eye should face the length of the body. **Tip:** If you have trouble getting the screw eyes in, try making a small hole with a small nail or T-pin where the screw eye will go, and then put in the screw eye.

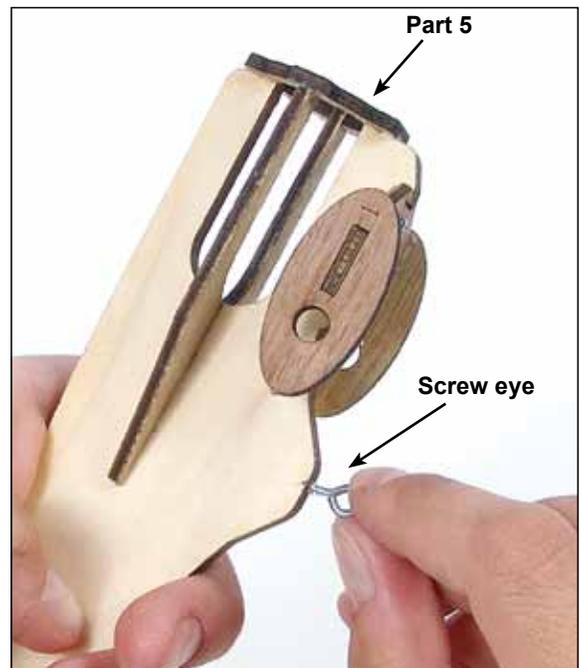


Figure 5

Adding the Axles and Wheels

1. Remove the axle bushings from the front and remove any burrs with sandpaper. Push an axle bushing into each axle hole on the dragster (Figure 6). Make sure the wide end of the bushing is on the outside of the dragster body.



Figure 6

2. Take one axle and push a rear wheel onto one end. Push the other end through the axle bushings at the back of the dragster. Place the other rear wheel on this end of the axle.
3. Take the other axle and push a front wheel onto one end. Push the other end through the axle bushings at the front of the dragster (Figure 7). Place the other front wheel on this end of the axle.

Operating Your Kit

1. Place a four- or eight-gram CO₂ cartridge in the rear of the dragster (Figure 8). Make sure the cartridge is all the way in and fits snugly.
2. Run the car on the track as you would race any dragster on your racing system.



Figure 7



Figure 8



A completed EZ Build Dragster.