Visibility: Great

Current: Moderate

Hi backers, sorry for the late update – it's been a busy busy week. As we get closer and closer to our estimated delivery dates, we want to thank you so much for your patience. If you have any questions for us, please don't hesitate to shoot us a message/email. Again, we can't thank you enough for joining us on this journey – and we know that once you get your Nemo, you'll be glad you did!

We've got a lot to report to you. Our team has been making a ton of progress so it's a long one. If you're in engineering or manufacturing, you're going to like this!

If you're not interested in all the logistics, here's what you need to know: Pretty much, our engineers have been working overtime to ensure each and every part of Nemo is perfect (not something you always get with new products). They're polishing off the final design files and working with our production partners to start injection molding (making Nemos). Everything is moving along and we're still on track for our May delivery dates.

Report:

We have officially finished adjusting every 3D CAD file for injection molding. Over the past couple weeks, we've been going back and forth with the molders to:

- Add draft angles that allow the part to be pulled out of the steel mold once the plastic is injected and cooled. Sometimes draft angles have to be larger than others. Sometimes the draft angles are only 0.5 degrees. However, this can still make a significant impact on part dimensions. We are 3D-printing a high quality production prototype to verify that these dimensions don't have any unintended negative impacts on performance or quality and are working to have the results as soon as possible so that molding of the affected parts can begin.
- Move certain parting lines. This changes where the two parts of the mold come together and is important for making certain features of a part mold-able. Our regulator is a fairly complex part, and it required some brainstorming on the best parting line to get all of the features that we need while keeping the mold as simple and reliable possible.
- Organize the parts into family molds. Sometimes multiple parts can be built

into a single mold together. This is called a family mold. The main benefit is that mold cost and part cost becomes lower when using family molds. The challenge is finding similar sized parts that can work together in a family mold, but our injection molding vendor is doing a great job of making that happen for us.

Remove unnecessary undercuts. Any time there are undercuts, or holes coming out in different directions, among other factors, the mold cost and complexity goes way up. Complexity means that there's more of a chance that the mold will take some adjusting to get right. With a goal to avoid any major delays, we've spent some time adjusting a number of designs to eliminate features that add complexity if it isn't totally necessary.

Forecast: Our next step with the plastic parts, as mentioned, is to build a full production prototype to confirm that these design changes don't hinder product performance or quality in any way. This is being done using a high-quality, outsourced 3D printer. Our in-house 3D printers are great for testing most design updates, but we have to put a lot of model analysis and post-processing work into adjusting to our printers' tolerances. For example, in the 3D model a wall thickness may be 0.065" thick, but it could come out of the printer at 0.080" and throw off the test. Not to mention, post-processing work of the parts from our printers can lead to even more variance in dimensions. The outsourced printer gives us parts that are virtually identical to the model, and ultimately identical to the parts that we'll receive from injection molding. This is the last check-off before cutting molds! Congrats to the MEs! (mechanical engineers)

We're making progress on setting up for in-house production:

- Electronics board design updates to ensure we pass the electromagnetic compatibility testing. We've had our board reviewed by a senior EMC engineer for advice.

- Software updates. We're running all sorts of lab tests on this over the weekend and are aiming to do real-life dives on it in the coming days, so more on this in a future update.

- Planning out the facility. We're deep diving into every little process, down to the dimensions of each table size that we'll need in order to build our target number of systems per month using our facility in Pompano Beach, FL.

- Our steel motor cores have been loaded off the ship and are on the way to the factory. Going to be one heavy package!

Thank you again to all our backers and we’ll update you in two weeks!

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