Stronger Stability for Epic Footage

If you've seen the breathtaking aerial footage drone cameras are capable of, you know it's possible to get film-like, smooth video from today's go-anywhere cameras.

GoPro needed to affordably deliver that same, incredible stability to adventure athletes on the ground, underwater or in flight—instead of the bounced-around "shaky cam" look that's inevitable with a handheld device.

BRINGING VIDEO DOWN TO EARTH

Without stabilization, the jarring agitation of any handheld video is obvious on screen.

It's even worse for adventure athletes: the conditions are anywhere from unpredictable to extreme; there's not always a logical place to mount the camera; and "just stand still" is a foreign concept. For these video creators, stabilizing equipment is key.

GoPro already had a stabilization system for use with a quadcopter-style drone, but customers love to get close-up footage right inside the action.

The company decided to re-purpose the drone mounting component into a piece customers could use to attach GoPro cameras to handheld and body-worn stabilizers instead.

EPIC VERSATILITY

"The products we make endure a wide variety of uses," explains Matt Thomas, Mechanical Engineering Manager for GoPro accessories. "Everything from skiing to SCUBA diving to chasing your kids through a park."

That meant the mount would have to be strong—and for consumer use, it would need to provide cost savings through thousands of units and many years. In order to expedite time to market, GoPro's designers initially specified the mount as an all-machined metal component.

"While that was the quickest way for us to get to market," says Thomas, "it was also more expensive. So in parallel, we investigated a longer term, more cost-friendly option."

To determine the optimal materials and processes to reduce costs for the replacement part GoPro wanted, the team brought in Dynacast.

CASTING DECISION

"We utilized Dynacast's services in the past on a number of projects, and they've become one of our top tier suppliers," says Thomas.

DYNACAST
A FORM TECHNOLOGIES COMPANY

The two companies had also worked together in sessions that Dynacast held to explore cost reduction and manufacturability improvements. And the first thing they agreed on was minimizing the costs related to process.

"Extrusion is great for making a two-dimensional part, but then when you add other features to it, you have to machine it as a secondary process, and that's what adds the cost," says Bill Heilman of Dynacast. "We told them, you don't have to add machining. We can just cast it in that shape."

HANDLE – WITH CARE

The GoPro team's overarching goal was to reduce the cost but had other requirements for the part too.

"We needed strength and a lightweight component. Something that would handle a variety of environmental situations," says Thomas.

And, since the part is a handle that people would operate with their fingers (often in extreme conditions, and maybe not with the gentlest touch), the team needed to make sure that the feel would be acceptable to the end user.

Because materials have different options for surface treatments, keeping the post processing work to a minimum was important, with respect to secondary polishing and machining of the components—and getting the precise anodization color. They ultimately cast it in aluminum, to match the existing parts on the mount—but also to achieve their cost-reduction goals.

MATERIAL SELECTION

"We tell customers, 'Don't assume because you chose one particular manufacturing process that that's the only way to make the part,'" says Dynacast's Heilman.

Matt Thomas would agree. "When we first started, the cast part represented an approximately 50% savings over the machined part"—making die cast aluminum a clear choice for both cost reduction and manufacturability goals.

"It's great to see product out on the market and being sold," says Thomas. "Dynacast is very responsive, very timely with their communication, easy to work with. It's just the ease of collaboration in taking the design from concept to tooling."

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> MATT THOMAS - GOPRO

To learn more or discuss your own project, please contact a local sales engineer at **www.dynacast.com/contact.**