



Flying with AM

Collaborative partnership produces complex, efficient geometries whilst reducing weight

Gravity Industries approached 3T-am with a requirement to reduce weight and streamline the existing design of their Turbine Arm Mount.

Gravity Industries augments the body and mind with a suite of patent pending technology to enable unparalleled human flight. Launched in March 2017, their dream was to reimagine human flight with an elegant partnership between mind, body and machine, exploiting leading edge technology. This vision led to the creation of the Gravity Jet Suit.



3T working with

GRAVITY



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The part requested is an Aluminium turbine housing arm assembly for the Gravity Industries Jet Suit. This section of the kit positions the turbines on the body and transfers the thrust to the body of the pilot. The 3T-am journey started with Polymer parts and then we worked closely to build the Aluminium arm mount.

A lightweight low-profile mount was required with a structurally sound geometry. Working closely on the original design with the internal 3T-am CAD team, the result has evolved from using standard manufactured parts with material removed, to a concentrated focus on a low mass product.

Weight is always an issue to be considered. It's critical to create a system whilst constantly considering the weight, aerodynamics and how that affects flight agility and capability. AM is the process where all challenges can be resolved early on in the design process.

METHOD	PRODUCTION TIME	FINISHING TIME	LEAD TIME
Build	120 hours	240 hours	3 weeks

Benefits have included introducing lightweight complex additions to the Jet Suit with a low part count featuring a consolidation of the parts and easier assembly. This has also enabled us to build a more efficient geometry and use of material in only areas where it is required. Essentially, it means we can fly further and faster!

“Working with 3T additive manufacturing ltd gives us the opportunity to work together with a really capable and motivated team as we constantly enhance the Jet Suit design.”

Richard Browning,
Chief Test Pilot and Founder,
Gravity Industries



T: +44 (0)1635 580284
E: aerospace@3t-am.com

3t-am.com