Date: 30 March, 2020

Subject: Available Manufacturing Assistance for COVID-19 Medical Equipment

As concerns over the coronavirus (COVID-19) continue to rise, and supplies of the products and tools needed to fight the disease become limited in availability, Astronics PECO is reaching out in the industry to offer our help.

Here at Astronics PECO, we have a large and diverse manufacturing plant with immediate capacity to take on critical work. Our modular approach to manufacturing allows us to quickly reconfigure machines, assembly areas and processes to support a wide variety of manufacturing. As the manufacturer of aircraft passenger service units that deliver life-saving oxygen to passengers in an emergency, we bring the expertise to manufacture essential medical equipment including ventilators, masks, and other medical devices.

We manufacture a wide variety of products for aerospace and defense applications and are a current supplier for multiple Tier 1 companies. In addition to our extensive engineering capabilities (mechanical/electrical/software design, test, qualification), Astronics PECO has extensive experience with **aerospace oxygen systems**, die-casting, **plastic injection molding**, CNC machining, hardware, composites, finishing (paint and chemical film), **additive manufacturing (3D printing)**, **test and complex assembly** capabilities. Also, in each of these areas we are capable of manufacturing small to large parts, sub-assemblies and/or complete assemblies. Our vertical integration allows us to control the manufacturing of subcomponents, ultimately reducing the response time. Astronics PECO also offers a highly capable quality team, with AS9100 certification, various NADCAP certifications, as well as ITAR certification.

As a current aerospace and defense supplier, Astronics PECO is considered an “Essential Infrastructure Workforce” so we are anticipating to continue operations if a “shelter in place” is mandated by state/local authorities. Furthermore, Astronics PECO has developed a comprehensive plan and implemented detailed guidelines and policies that will allow us to continue to operate our businesses while ensuring we follow recommended practices regarding social distancing, remote work, hygiene, travel and visitors to our facilities.

Please see the following pages for an overview of our manufacturing capabilities.

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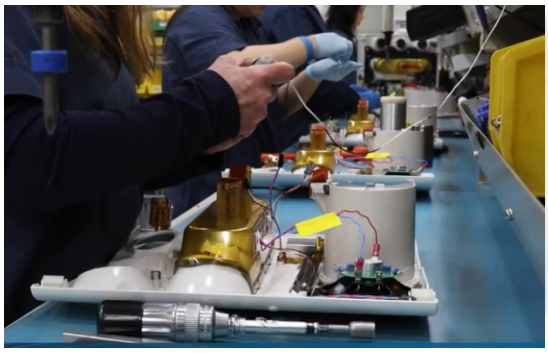
Manufacturing Capabilities

True vertical integration to support demanding production requirements



Baseline Manufacturing Processes

- Injection Molding
- Die Casting
- CNC Machining
- Finishing: Chromate Conversion/Sol-Gel, Prime & Paint
- Assembly/Test
- FAA Repair Station
- Additive Manufacturing
- Kitting

Materials and Processes Managed "in-house"

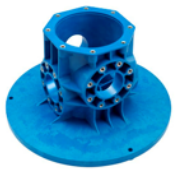
- Additive manufacturing, structural engineering resins, aluminum, titanium, electronics, lighting, oxygen systems, ECS components, software managed systems, chemical finish, prime, paint, die penetrant inspection, Titanium Sol-Gel, sheet metal, rotable kitting, bonding, *daily management to the Boeing Production System*.

Integrated Supply Chain Management

- Sheet metal, fasteners, special processes, hardware, tubing, oxygen components, acoustics, PCB's, hoses, insulation, wire bundles, finishing, thermoforming, cable assemblies, elastomers (seals and gaskets)

Plastic Injection Molding

- Engineered Resins
  - Glass/Carbon filled, PEEK, High Temp
  - FDA Approved materials
- Part size ranging from 2oz to over 70oz
- LEAN automated part extraction
- Mold flow analysis
- Sequential gating tool design
- Tensile, x-ray, torque testing



Additive Manufacturing

- On-site 3D printed Materials
  - Fused Deposition Modeling (FDM)
    - Ultem 1010 & 9085, FR rated PC & PC/ABS, PEEK
- Partners for 3D printed metal powder & EBAM
  - Titanium TI64A, 15-5 & 17-4 SS, 300 series SS, Inconel, Monel, Aluminium
- Partners for 3D printed engineering resins
  - Selective Laser Sintering (SLS)
    - Nylon, GF Nylon, CF Nylon, AL Nylon
  - Stereolithography (SLA)
  - Seal materials (Urethane/rubber)

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Die Casting

- Aluminum and zinc alloys
- Up to 1000ton clamping force
- Robotic spray & part extraction
- In-house flow analysis
- Multi-slide/multi-cavity tooling

CNC Machining

- 3 and 4 axis mill capability
- Lathe turning with live tooling
- Horizontal and vertical milling
- Pallet systems for efficient operation
- Automated CMM quality control

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Chemical Coating & Finishing

- Chromate conversion- class 1 and 3
- Titanium Solgel
- Plastic and metal finishing
- (3) Class A pressurized paint booths
- Force cure ovens

Final Assembly and Test

- Flexible manufacturing operations
- LEAN culture
- Automatic Test Units (ATE)
- Just-in-time delivery (JIT)
- Rotable shipping to support customers

At Astronics PECO, we are very concerned with the rapid spread of this virus and are ready to jump in and help support the containment and stop the spread of COVID-19.

For more information, please inquire with any of the contacts listed.

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