

## **CHALLENGE**

### **OBSOLETE PARTS & REPLACEMENTS**

Signicast had a need for replacement parts for assembly and manufacturing lines that inconveniently became obsolete through their supplier. Parts that were obsolete consisted of both injection mold and machining processes. Both of these processes, as a result, can be expensive and time consuming. The solution provided was a 3D printing process that supplies fully-functional, ready-to-use parts and with a low cost and short lead time.

## **SOLUTION**

### **3D PARTS UNLIMITED & HP**

Parts were developed at Engman Taylor, using HP's Multi Jet Fusion 3D printer. The printer uses a Nylon glass-filled polyamide powder that, when fused together in the printing process, results in exceptional mechanical properties and dimensional accuracy. Engman-Taylor was not only able to provide the parts, but design modifications were made for improvement.

## **RESULTS**

### **END-USE FUNCTIONALITY & CUSTOMIZATION**

Parts were delivered with a one day turn around and were ready to be used right away. Costs were similar to injection molded costs per part, and also did not include expensive tooling costs. In addition, Engman-Taylor was also able to add inventory numbers to all parts for Signicast for future replacements needed, resulting in less inventory space used up at Signicast.

#### **Quick Specs:**

##### **Process:**

- HP Multi Jet Fusion (MJF)

##### **Number of Pieces:**

- 104

##### **Material:**

- Nylon Glass-Filled

##### **Intended End Use:**

- End-Use
- Actuator Arms
- Nozzle holders

##### **Dimensions (X,Y,Z):**

- Length: 2.96 in.
- Width: 1.15 in.
- Depth: 1.15 in.

##### **Industry:**

- Supplier Use



**Actuator arms**

**Obsoleted item  
from supplier**

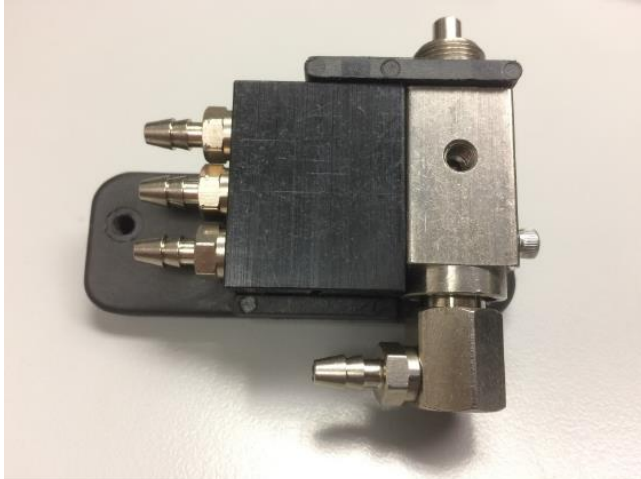
**3-D printed  
replacement**



**Actuator arms**

**Obsoleted item  
from supplier**

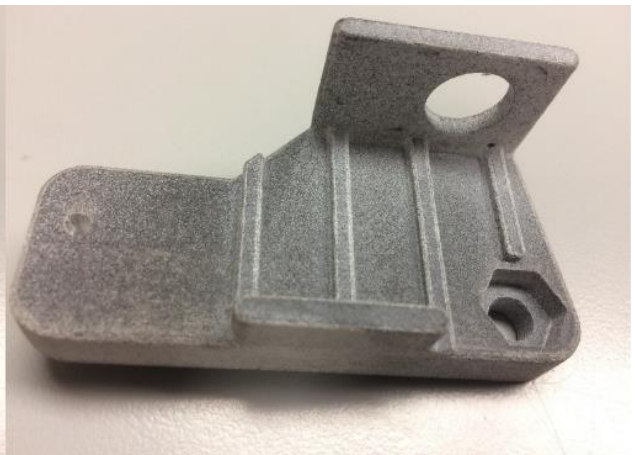
**3-D printed  
replacement**



**Used in assembly**

**Obsoleted item  
from supplier**

**3-D printed  
replacement**



**Obsoleted item  
from supplier**

**3-D printed  
replacement**

