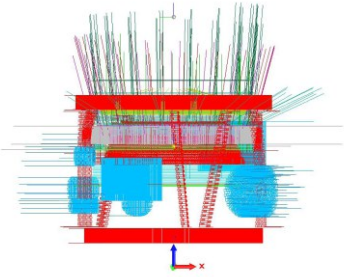


# GEARBOXHOUSING OF A POWERSHIFT TRANSMISSION



CAD model



Metal printed part



Partly machined part

## INFORMATION ON THE COMPONENT PART

- Application: Gearbox housing of a powershift transmission
- Conventional manufacturing technology: milling or casting, from aluminum to reduce weight
- Problems with procurement by milling:
  - » Very high chip volume.
  - » High utilization of turning and milling centers.
  - » High costs for wrought material procurement due to large required dimensions.
  - » Weight-optimized component geometry cannot be produced due to production limits of conventional technology.
- Problems with procurement by casting:
  - » Economical only in high quantities.
  - » Subsequent changes can only be realized by manufacturing new moulds.
  - » Weight-optimized component geometry cannot be produced due to production limits of conventional technology.

## ALTERNATIVE TO CONVENTIONAL MANUFACTURING TECHNOLOGIES 3DMP®

- Weight-optimized production with steel, enables weight savings with higher strength at the same time.
- Near-net-shape production.
- Reduction of the required turning/milling time
- Economical from lot size 1.
- Subsequent adjustments can be easily implemented.

## TECHNICAL DATA

**Machine:** arc405

**Dimension [In/mm]:**

$D_{a,Flange} = 15.75in / 324mm$

$D_{a,Segments} = 14.96in / 380mm$

$D_{i,Cooling\ Channel} = 6.34in / 161mm$

$D_{i,Tube} = 9.76in / 248mm$

$H = 9.61in / 244mm$

**Wire:**




1.4370 |  $\varnothing 0.047in / 1.2mm$

**Print Mass**

77.16lb / 35kg

**Printing time:** 20.25h

## BENEFITS OF 3DMP®

-  Reduction of manufacturing time
-  Cost savings
-  Small units
-  Material savings
-  Fast customization

FABRICATION | ADDITIVE | SUBTRACTIVE | TECNOLOGY

**Fastech LLC**

232 Slayton Ave  
Danville VA 24540

Askus@fastech-engineering.com  
Tel: +1 (434) 766 6632

**[www.Fastech-Engineering.com](http://www.Fastech-Engineering.com)**



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