

Components produced by Axial Forming:
Sun Gear



07-0511F

Workpiece

Material: SAE 4130
Blank: Extruded blank

Previous technique:

Turning of external contour, spline rolling on solid material, boring and internal turning

Manufacturing requirement:

(Swaging of the external and internal contour and axial forming)

Spline data:

- Spline type: diametral pitch
- Number of teeth: 37
- Module: 0,79375
- Pressure angle: 30°
- Minor diameter: \varnothing 28.18 -0.16
- Major diameter: \varnothing 30.16 -0.25 mm
- Dimension over pins: \varnothing 31.562 -0.04 mm

Advantages at a glance:

- Wall thickness under the spline of < 1.7mm possible due to recursive axial forming
- Work hardening due to swaging
- Excellent surface
- Considerable savings in material and weight
- High process reliability
- Changeover to similar type < 35 min
- Short cycle times

Production rate:

Cycle time: approx. 12 sec.
(5 parts/min)

Machine:

Model: Aximus V02
Press force: 700 kN static
400 kN recursive

Reference: confidential

Final customer: ZF

Required floor space with integrated cabin:
(L x W x H)
approx. 4,200 x 1,400 x 3,600 mm

Weight: approx. 8,500 kg

Required power: approx. 55 kW

