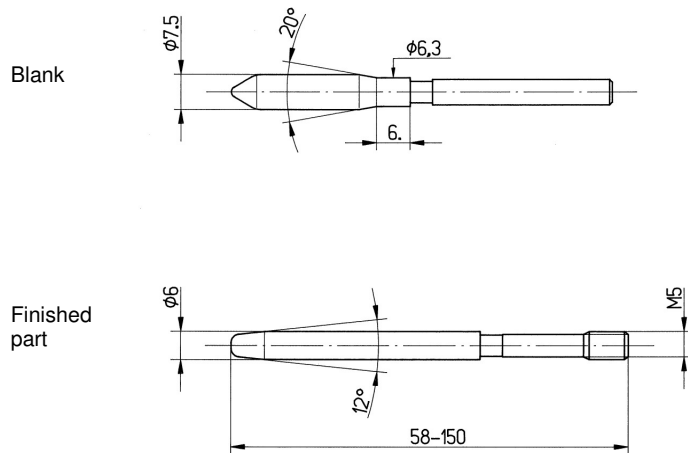


Components produced by Precision Rotary Swaging:
Glow Pins for Car Diesel Engines



Workpiece:

Material: INCONEL 601
 NICROFER 6025 HT

Blank: glow pins assembled by rotary swaging
 workpiece length 58 to 150 mm and dia. 6.2 or 7.5 mm

Manufacturing requirement:

Complete manufacture of glow pin in one machine pass

Previous technique:

unknown

Operation sequence:

1. Feed swaging from dia. 7.5 to 6.5
2. Feed swaging from dia. 6.5 to 6.2
3. Feed swaging of tapered section
- 3a) Turning workpiece by 180°
4. Form point by feed swaging
5. Size O.D. to dia. 6 by feed swaging
6. Cut-to-length
7. Facing and chamfering
8. Rolling M5 thread
9. Measuring length and resistance

Advantages:

- Good dimensional accuracy
- Excellent surface finish
- Very good homogeneous forming of Magnesium
- Automatic 100% workpiece inspection
- Very long die life
- Modular machine concept
- Complete manufacture of part on one transfer line

Machine description:

Automatic transfer line consisting of:

- 5 swaging stations
- 1 rotating station
- 1 turning station
- 1 thread rolling station
- 1 checking station (resistance/length)

Production rate:

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

Machine:

Model: HA 16-9 VU-NC

Required floor space without sound enclosure: (L x W x H)
 approx. 5050 x 2950 x 2400 mm

Weight: approx. 10,000 kg

Required power: approx. 20 kW