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## METHOD FOR THE SURFACE HARDENING OF A BALL STUD

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## METHOD FOR THE SURFACE HARDENING OF A BALL STUD

### Technical task:

The object of the technical innovation is to optimize the air resistance coefficient and the brake cooling by means of an active control.

### Initial situation:

The object of the technical innovation is to be able to eliminate the surface hardening by means of a device at some points of a ball stud in order to meet the ductile component behavior required at the site.

### Solution:

Especially in the area of the ball neck neck, a ductile component behavior could be advantageous. For this reason, this area should be excluded from the treatment. In plasma nitrocarburizing (PNC) this area can be recessed with a cover. For this purpose, two versions are presented:

#### 1) cover clamp:

By clipping the clamp onto the ball stud neck, it is shielded from the plasma flame and the area is thus left in its original state. The clamp can be attached before the process and removed after the process. Further use is possible.

#### 2) Cover spring ring:

Slipping the spring ring over the ball neck shields it from the plasma flame and thus leaves the area in its original state. The spring washer can be attached before the process and removed after the process. Further use is possible in any case. One or more springs hold the cover segments in shape and press them after assembly to the ball neck neck.

### Advantages:

- Extended life of the component.

### Possible application:

- Ball stud.

