

BBS three piece rims, technology

Design of the three piece rim

The three piece rim is an assembly of the outer rim half, the inner rim half and the rim centre. A seal is assembled between the rim halves. The rim halves and the seal are screwed to the rim centre.

The following figure shows a cross section through a three piece BBS rim. The numbers in the figure indicate the outer rim half (1), the inner rim half (2), the seal (3), the rim centre (4), the screws (5) and the valve (6).

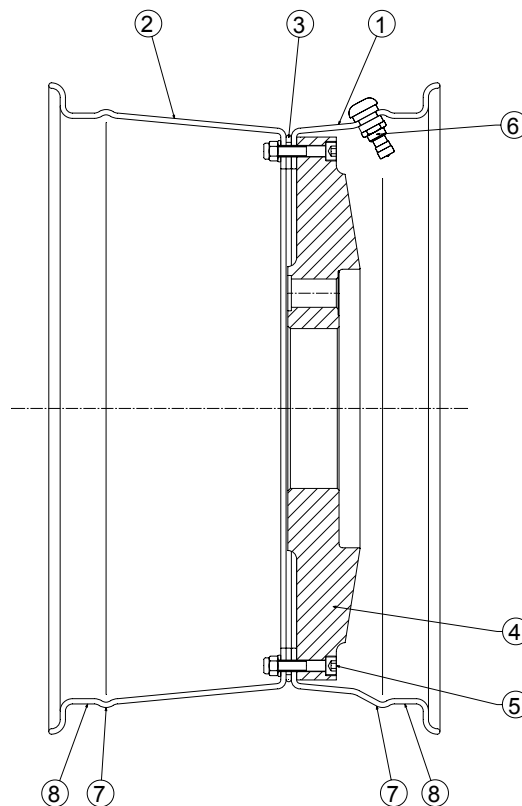


Figure: Cross section through a three piece rim, parts of a three piece rim.

As an advantage of the three piece rims the rim width and the rim offset can be chosen individually. Another advantage is, that in case of a damage of one rim part, e.g. by contact with a curb, the single rim part can be replaced easily.

The BBS rim halves are equipped with a safety hump (7) that in case of drop in pressure keeps the tire in contact with the rim edge and by this prevents the tire from stripping off the rim.

The contact surface of the tire on the rim (8) is sandblasted. By this the tire can't slip on the rim in case the tire is run with low air pressure e.g. on slalom or hill climb races.

The rim halves are made from high quality aluminium. The outer rim halves are polished but not equipped with any additional coating. The rim centers are made from magnesium alloy and are painted golden. The Spiess rim center also is made from magnesium alloy and is not painted.

Flat base and drop base rims

The rims are classified to flat base design and drop base design. The terms describe the cross section of the rim and do not mean the width of the outside rim. Flat base rims are assembled with rim halves that have the same diameter as the centre section. An assembly of rim halves with a bigger diameter than the rim centre is a drop base rim.

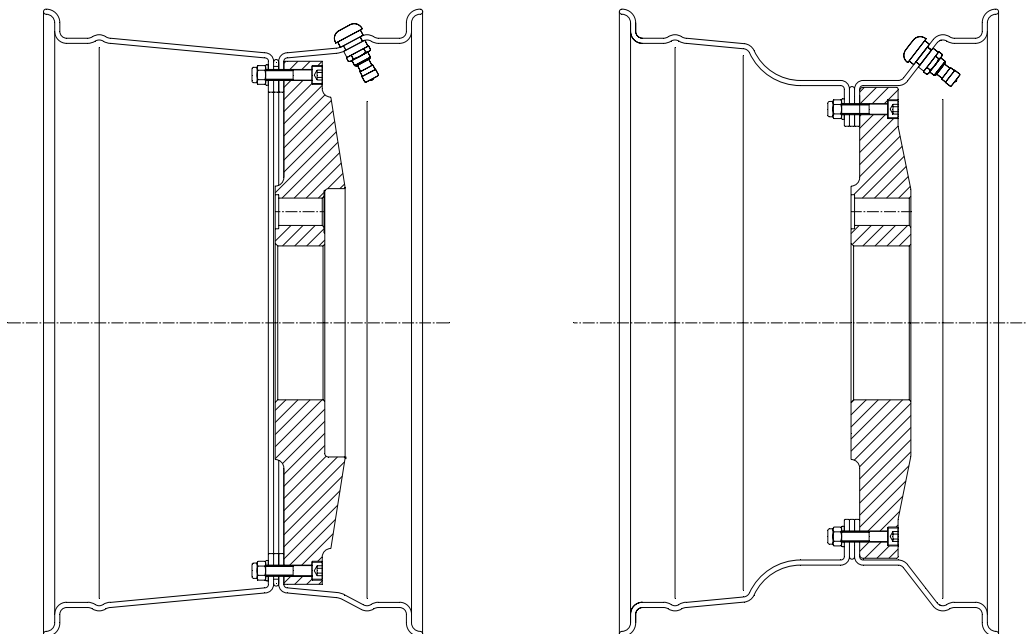


Figure: Cross section of a three piece rim in flat base design (left) and drop base design (right)

Seal between the rim parts

The seal between the rim parts is designed as an aluminium ring with a rubber seal on the outer diameter. The rubber portion of the ring has to be renewed for each assembly of the rim. Otherwise there is a risk of air leak after assembly.

An old design of the seal rings had been equipped with o-rings glued to each side of the aluminium ring.

Connection of the rim parts

The parts of the rim are assembled with screws grade 10. The screws are zinc coated and tempered to avoid hydrogen embrittlement.

Assembly of the tires

On flat base rims it is not possible to mount or remount the tire to the completed rim as usual. Otherwise damage on the rim or the tire may be caused. The flat base rim has to be assembled in the tire and disassembled for tire changing.

On drop base rims the tires can be mounted as usual.

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