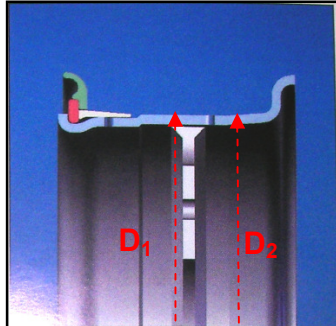


Rims

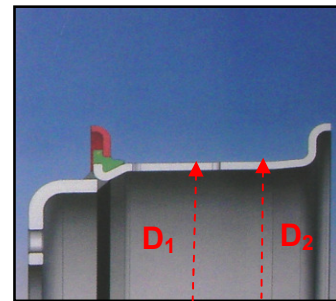
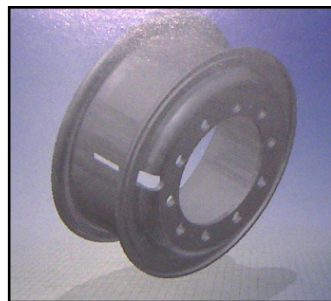
a) Standard industrial vehicle rims **compatible** with TSR:

5° tapered bead seat rims & flat base rims (according to DIN7820 & 7825)



4 piece wheels

$$D_1 = D_2$$

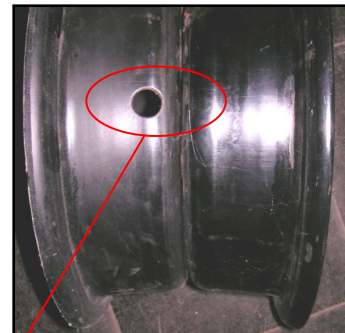
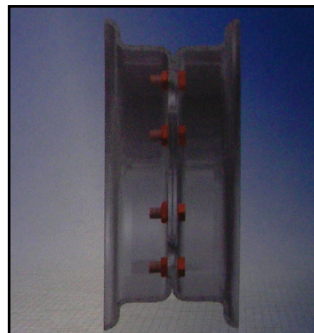
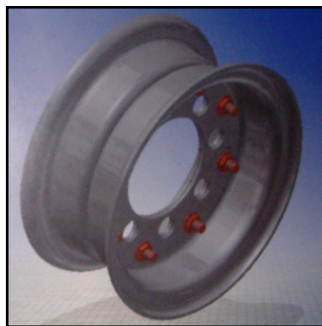


3 piece wheels

$$D_1 = D_2$$

b) Standard industrial vehicle rims **not compatible** with TSR:

Center split rims

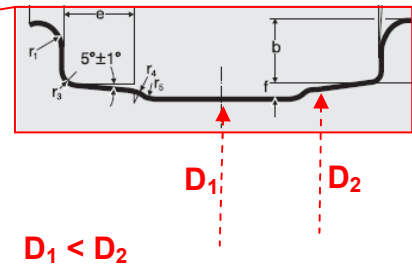
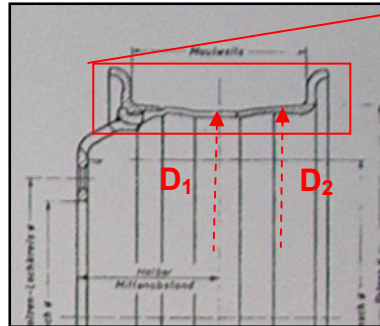


Valve hole (no valve slot)

The TSR system is in general not suitable for use with split center rims. The main reason is the small valve hole instead of the “normal” valve slot, which makes the mounting impossible. In comparison, the Michelin TBS is also not suitable for split center rims.

c) Other industrial vehicle rims which are not compatible with TSR:

- *Semi drop center (SDC) for Commercial, All-purpose and Earthmoving vehicles (according to DIN 7826)*



WARNING:

The above mentioned SDC rims are typically not suitable for industrial applications, due to the reduced material thickness versus standard industrial rims. Due to the fact that the SDC rims are cheaper than standard industrial rims (less material) and have the same diameter (D_2) like standard industrial rims, customers sometimes mount 10.00R20, 11.00R20 & 12.00R20 (or x-ply versions of these sizes) on SDC rims. Because of the diameter decrease (D_1) of SDC rims, the TSR is not compatible with these rims!

- *Passenger / Van rim 4.50B-13 and 4½J-13*

These rims are applicable for our new 165R13 CRV20. There is neither a TSR nor a tube and flap necessary because the tire and rim are already tubeless!

d) Valve slot cover plate

This cover plate is sometimes necessary for certain rim designs, with both tube+flap as well as TSR. It avoids the crawling of the tube+flap or TSR through the valve slot and assures a permanent function of the complete system.

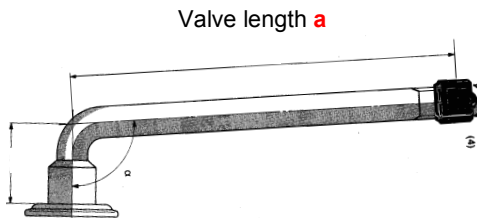
Known cases: rims with valve holes longer than 50mm.
For instance, 4.33-8 and rims >12" diameter.



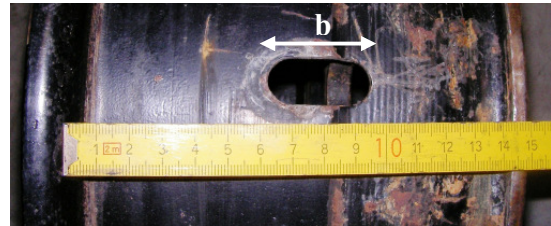
Valves

a) Valve Length

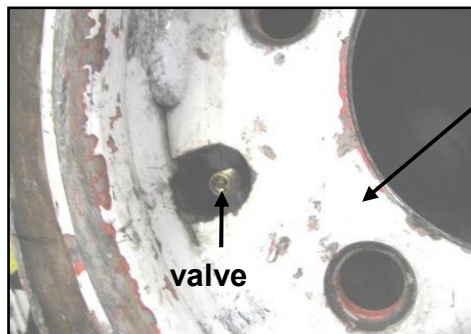
The maximum valve length "a" of the TSR has been designed to be able to pass through the valve slot length of the rim "b" when mounting. Due to the different mounting procedure of tubes and various available valve designs, the valves of tubes could be longer than TSR valves.



Valve slot length of the rim **b**



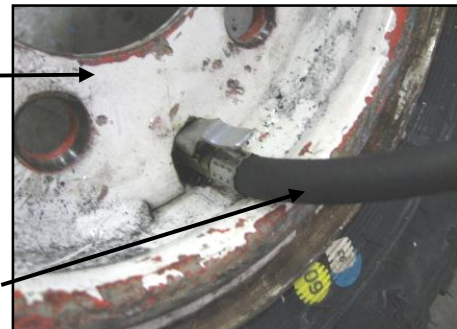
Depending on the position of the wheel disc (which depends on the vehicle), the valve could be too "short", or at the same position as the wheel disc (see pictures below). This makes it difficult to inflate or to check air pressure during service



Valve at the same position as wheel disc

disc wheel

Inflation tube
with clip on
air chuck



Solution:

Use a valve extension e.g.:



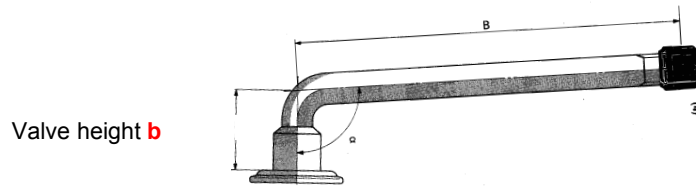
Alligator Art. Nr.: 33.1203
(effective length of 34 mm)

There are several brands which produce such valve extensions.

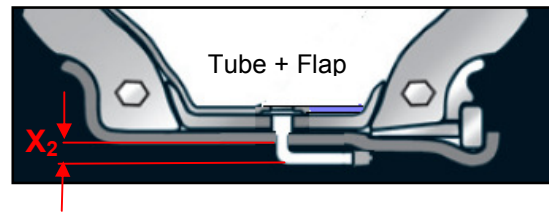
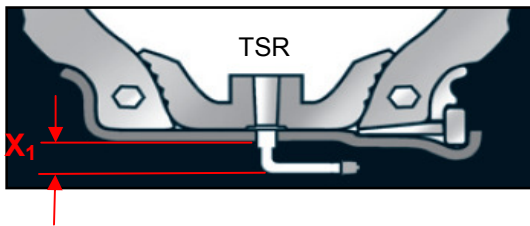
For the **6.00R9** dimension (TSR 4.00 TL 9), a valve extension will be provided with the TSR.

b) Valve Height

The height “b” of the valves used for the TSR is identical to those used for tube+flap.



The remaining height after mounting (outside the rim contour) is greater with TSR versus tube+flap ($x_1 > x_2$).



The potential result of the above mentioned difference is an interference between the TSR valve and the brake drum.



Valve after interference with brake drum

Known case is TSR (Art. Nr. 0793000) for 8.25R15 mounted on KALMAR DCD 90-6L. Up to now no problems on other vehicles using this TSR.

Solution:

Short Term: metal grommets



Metal grommet



Metal grommet mounted on rim

Long Term: Design of a special valve solution or eccentric valve positioning for TSR

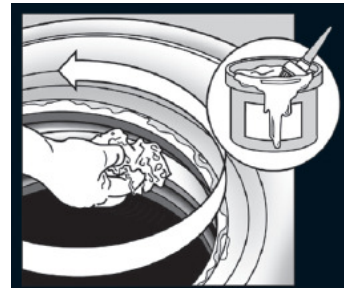
Mounting

The mounting procedure of the TSR is different to the mounting of tube+flap. A detailed description (leaflet) as well as an animated movie is available in the internet.

These two following steps are extremely important to follow:



1 Lubricate bead area of tyre, as well as tyre interior at least up to middle of sidewall.



5 Lubricate visible surfaces of the TSR, which is now in position inside the tyre.

Also lubricate the visible sealing lips!

Special Case:



> Mounting procedure

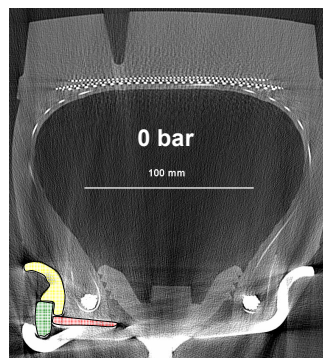
> **≈ 95 %** off all mounting procedures work out properly / tire inflates



BUT ≈ 5 % need a 2nd mounting trial or a little help!

> why?

1) situation after mounting (95%)



Tapered ring

Flange ring

Locking ring



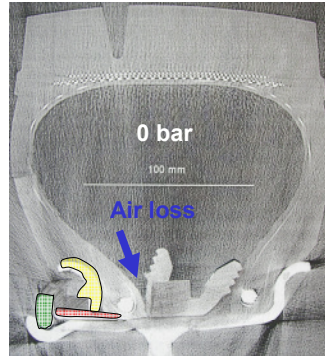


> Mounting procedure

2) situation after mounting (5%)



Tapered ring
Flange ring
Locking ring



Solutions:

- “Tip the Tire”, or drop the tire on the side with the mounted rim flange.
- “Reverse Press”, when a CSE press is available, press the tire and rim assembly on the fixed flange side with the mounted flange side down.