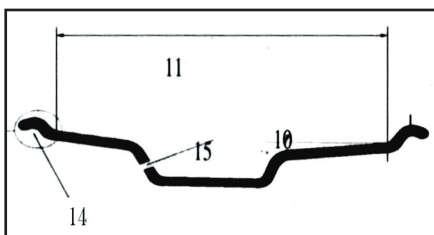
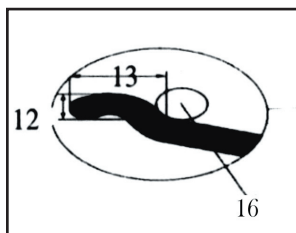
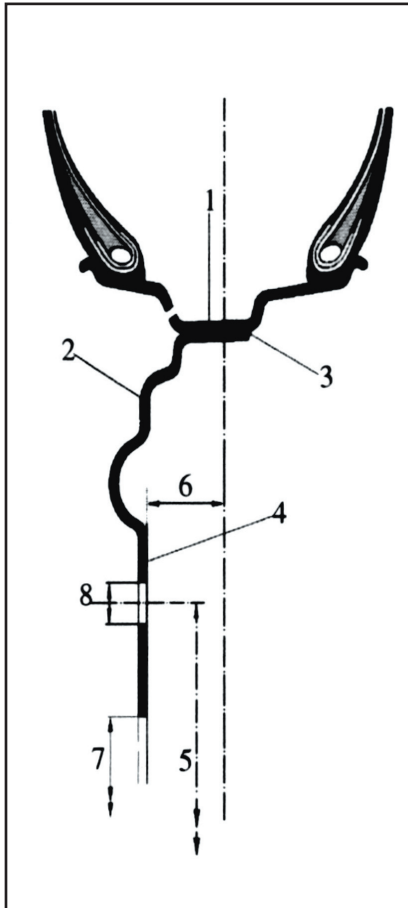


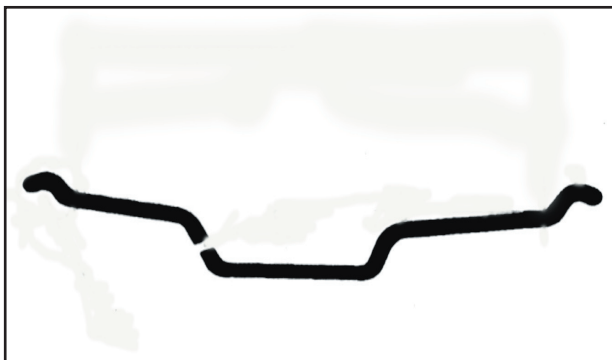
4.0.0 RIMS

4.1.0 TERMINOLOGY

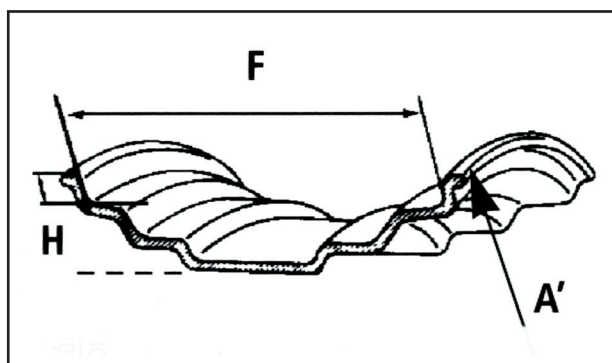


1. Drop centre
2. Centre
3. Rim/disc joint
4. Hub contact surface
5. Bolt circle diameter
6. Offset
7. Hub hole diameter
8. Bolt hole flange (diam.)
9. Rim flange
10. Union
11. Rim width
12. Rim edge height
13. Weight edge width
14. Rim edge profile
15. Valve hole
16. Gauge (ball belt) seat

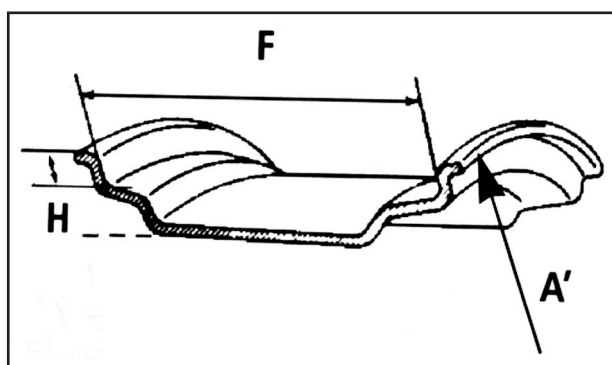
4.1.1 TYPE OF RIMS



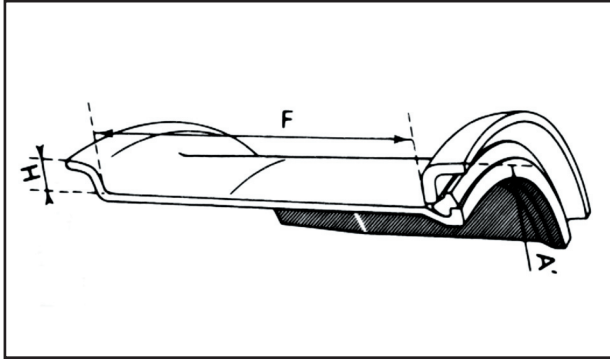
Normal rim for transport truck for Tubeless and Tube type tyre.



DW DEEP WELL DROP CENTER RIM
For heavy loading truck

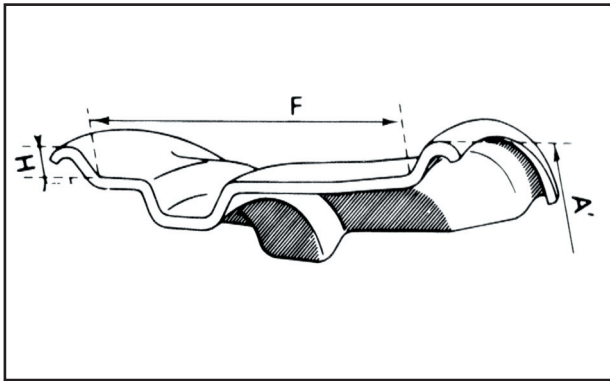


W WIDE DROP CENTER
For earth moving and mining machine.



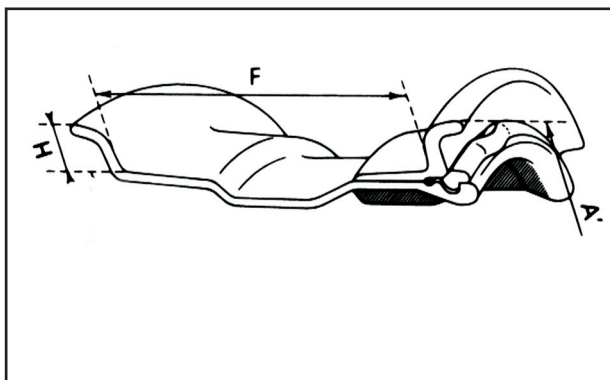
3 PIECES RIM (DAYTON)

For heavy load truck, earth moving and mining.



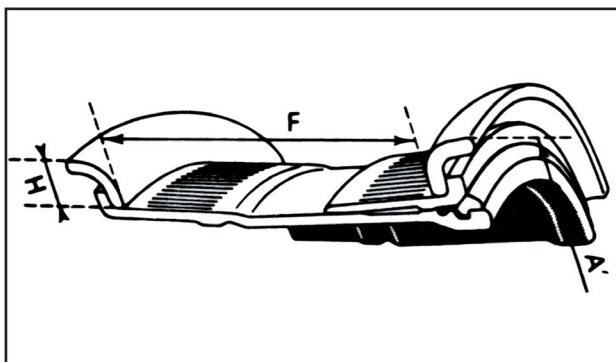
DC DROP CENTER RIM

For agriculture tractor and mining.



SDC SEMI DROP CENTER RIM

For heavy load truck and earth moving machines.



5 PIECES RIM

For heavy agriculture tractor and earth moving machines.

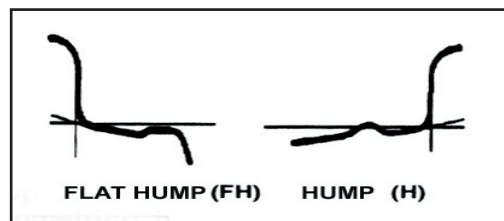
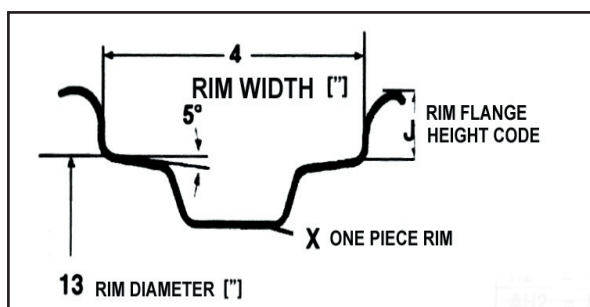
4.2.0 RIM MARKINGS

Here we discuss the rim profile only. The thickness and design of the rim disc depends on the design approach and individual taste; its effect on the offset is mainly important in case of tyre conversions, for example.

DROP CENTRE RIMS

Normal "C" tyres for vans and passenger cars are known as drop centre rims because of the lowered centre needed for easier tyre mounting.

A rim marking (e.g. 4 J x 13 H2) provides the following information:



H = SINGLE HUMPH
 H2 = DOUBLE HUMPH
 AH2 = ASYMMETRIC HUMPH

4.3.0 RIM EDGE HEIGHT

RIM TYPE	REFERENCE LETTER	RIM EDGE (mm)
DROP CENTER	C	15.9
	J	17.3
	JK	18.0
	K	19.6
	E	19.8
SEMI-DROP CENTER	G	27.9
	H	33.7
	T	35.7
	VA	43.2
FLAT BASE	P	25.5
	R	28.5
	S	33.0
	T	38.0
	V	44.5
	W	50.8
5° UNION	WIDTH (")	
	7.0	38.0
	7.5	40.5
	8.0	43.0
	8.5	46.0
	9.0	48.0
10.0	51.0	
15° UNION	ALL	12.7

Comments

- Correct rim edge height is fundamental since the edge retains the tyre beads during flexing.
- Sooner or later, unsuitable edges may create bead damage problems.

TOO HIGH

The edge may wear the bead area due to rubbing.

TOO LOW

Insufficient bead support, leading to excessive curvature - fatigue/separation

4.4.0 OFFSET RIM

Definition: Distance between the rim centre line (**C/L**) and the inside surface of the disc (hub contact). It may be positive, zero or negative (measured in mm).

Outside the C/L means
further from the engine

Inside the C/L means
closer to the engine

Positive Offset (E)
External contact surface

Negative Offset (E)
Internal contact surface

- Rim offset does not affect the tyre's performance but does influence its handling. Differences in offset between the left and right wheels of the same vehicle are dangerous.
- The rim offset affects the contact area width and the king-pin offset.
- In case of a significant change in the offset, it is important to check for the risk of contact between the tyre and parts of the vehicle.

4.5.0 RIM CARE AND SAFETY

- Broken or cracked rim parts and components must never be re-welded; they must be replaced
- Rims should be treated with anti-corrosion paint and kept clean (especially in the tyre contact zones)
- If parts of the rim seem not to fit together, there is something wrong. Do not force components into place; instead, check the part numbers, the mounting sequence, and the type and condition of tools/levers, etc.
- If a very high inflation pressure is required, consult the rim manufacturer
- If air leaks from the tyre/wheel combination, do not forget to check the welding zones on the wheel's radius and circumference

4.6.0 INNER TUBE

Function

- The inner tube seals the air inside tube-type tyres that do not have an airtight inner surface

Inner tube characteristics

- Inner tubes for radial ply tyres are marked "R"
- After lengthy use, the inner tube will have acquired a specific shape, so it should not be reused with another tyre (risk of deformation/failure)

Inner tube maintenance

- Inner tubes must be fitted into the tyres with care and slowly brought into shape using a small amount of air at low pressure.
- Check the tyre for internal bulges; the interior should be coated with a thin layer of talc before the inner tube is fitted.
- It is also important to check the inside of the tyre carefully for foreign bodies, cracks, prominent and/or sharp ventilation holes etc., which may puncture the inner tube.
- Using inner tubes inside tubeless tyres - except to overcome eccentricity problems - is merely a waste of money.

4.7.0 FLAPS

Function

The flap protects the inner tube in the area where it touches the rim.

Flap characteristics

- There are two types of flap: seal-ring and moulded
- Pre-shaped moulded flaps are preferable to the vulcanised ring type because they are usually better finished
- However, a moulded ring must always be perfectly matched with the rim width and tyre type (conventional and radial ply)
- Flaps without rim edge reinforcement must be used with a metal rim edge guard

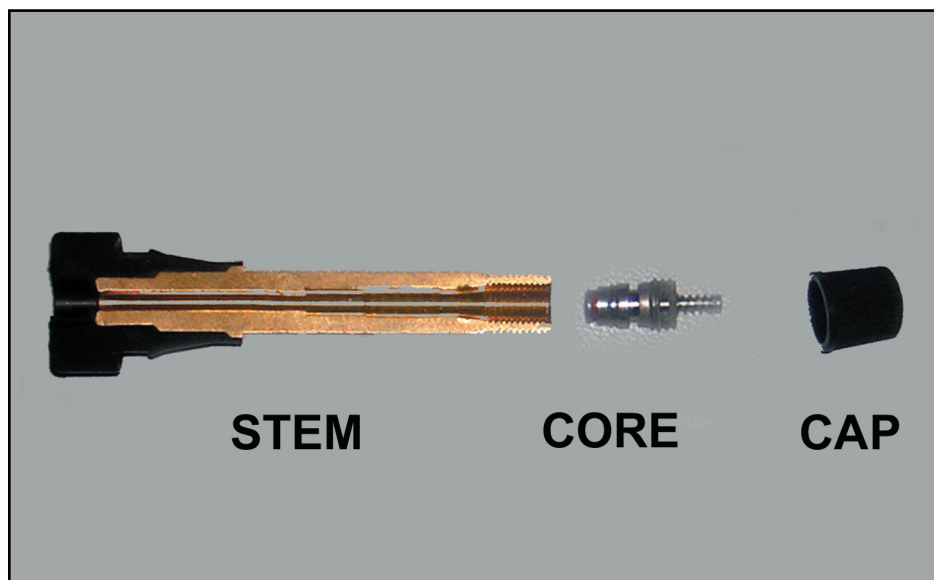
4.8.0 VALVES

Function

The valve is used to inflate the tyre and check/adjust its inflation pressure when in use

Valve components (for TT or TL applications)

- (a) Stem
- (b) Core, the main air retainer device
- (c) The cap, which not only protects the core from dirt, dust and water but also acts as an additional retainer, if in metal.



Valve care

Valves with a faulty core must be replaced immediately

All valves (especially in case of twinned and internal wheels) must always be accessible (the use of extensions is permitted)

Valve extensions must be rigidly fixed to wheels

Caps

Metal caps are preferable because they have an airtight rubber seal

Cores (or mechanisms)

They are available in long and short versions (see ETRTO databook for details)