



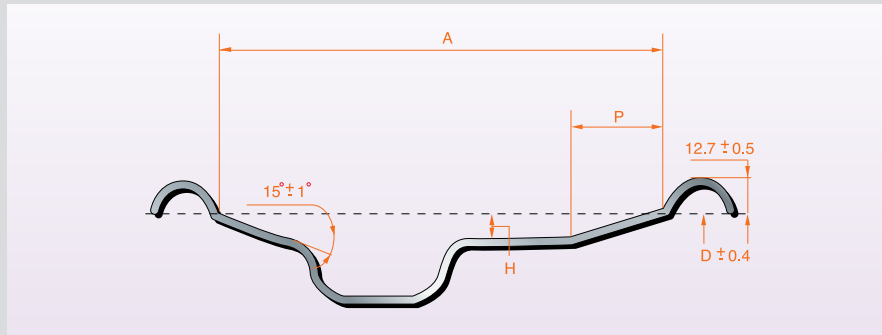
TRUCK AND BUS TYRE | **TECHNICAL MANUAL**

RIM AND ACCESSORIES

Technical data of rims
Demounting and mounting
Tubeless tyre demounting and mounting
Tubeless rim valve mounting
About dual spacing

Technical data of rims

Drop-centre rims with 15° tapered bead seats



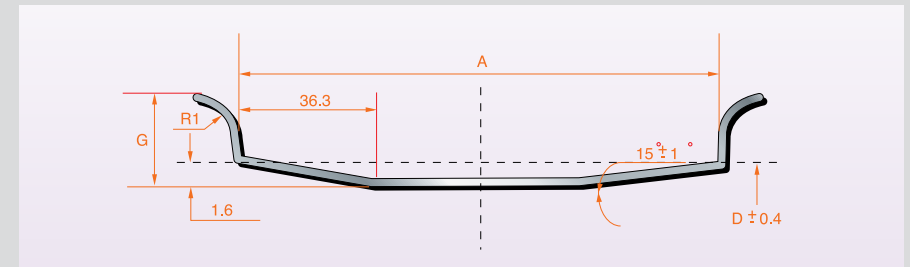
DIMENSIONS(MM)		DIMENSIONS(MM)	
Rim	A±3.2	Rim	A±3.2
5.25	133.4	10.50	266.7
6.00	152.4	11.75	298.5
6.75	171.5	12.25	311.0
7.50	190.5	13.00	330.2
8.25	209.6	14.00	355.6
9.00	228.6		
9.75	247.6		

DIAMETERS				
Nominal diameter code	17.5	19.5	22.5	24.5
Diameter D (mm)	444.5	495.3	571.5	622.3

The rim is part of the wheel which supports the tyre.

Multi-piece rims with 5° tapered bead seats

Rims with detachable lateral rings are equipped with flange and bead seats which are removable on one side of the rim.



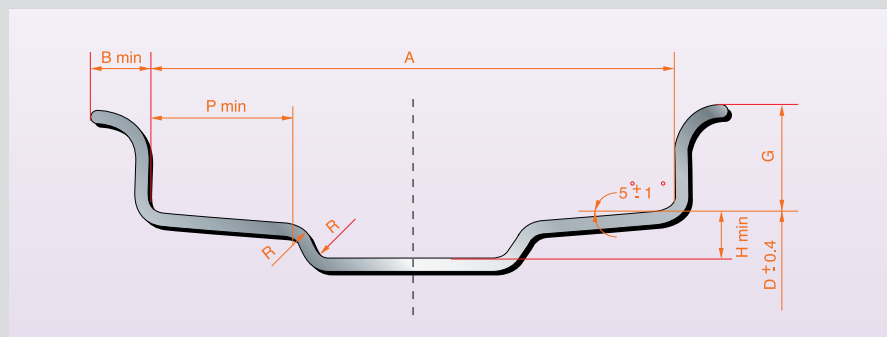
DIMENSIONS(mm)		BASIC		OPTIONAL	
Rim	A±3.2	G±1.2	R1±2.5	G±1.2	R1±2.5
5.0	127.0±3.2	27.9	14.0		
5.5	139.7±3.2	30.5	15.2	33.0	16.5
6.0	152.4±3.2	33.0	16.5		
6.5	165.1±3.2	35.6	17.8	36.8	18.4
7.0	177.8±3.2	38.1	19.0	36.8	18.4
7.5	190.5±3.2	40.6	20.3	42.0	21.0
8.0	203.2±3.2	43.2	21.6	42.0	21.0
8.0 V 5°	203.2±3.2	44.4	27.0	42.0	21.0
8.5	215.9±3.6	45.7	22.9	43.2	21.6
9.0	228.6±3.6	48.3	24.1	45.7	22.8
9.5	247.7±3.6	38.1	19.0	8.25	8.25
10.0	254.0±4.7	50.8	25.4	9.00	9.00
14.0 V 5°	355.6±4.7	44.4	27.0		

DIAMETERS				
Nominal diameter code	15	20	22	24
Diameter D (mm)	384.4	514.4	565.2	616.0

Technical data of rims

The rim is part of the wheel which supports the tyre.

Drop-centre rims with 5° tapered bead seats

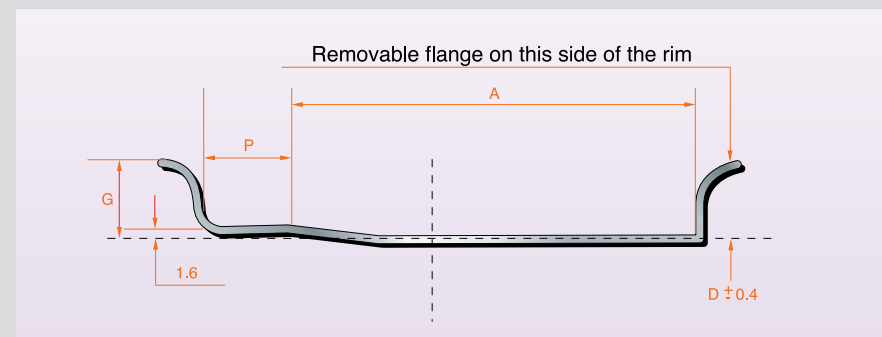


DIMENSIONS (mm)				DIMENSIONS (mm)			
Rim	A ±1.5	G $\begin{smallmatrix} + 3.2 \\ - 0.4 \end{smallmatrix}$	H min	Rim	A 3.2	G ±1.2	P min
4.00B	101.6	14.0	15.0	4.50E	114.3	19.8	22.2
4.50B	114.3	14.0	15.0	5.00E	127.0	19.8	22.2
5.00B	127.0	14.0	15.0	5.50E	139.7	22.2	23.9
5.50B	139.7	14.0	15.0	6.00G	152.4	27.9	31.8
6.00B	152.4	14.0	15.0	6.50H	165.1	33.7	36.3
4.00C	101.6	15.9	16.8				
4.50C	114.3	15.9	16.8				
4J	101.6	17.3	17.3				
4½J	114.3	17.3	17.3				
5J	127.0	17.3	17.3				
5½J	139.7	17.3	17.3				
6J	152.4	17.3	17.3				
6½J	165.1	17.3	17.3				
7J	177.8	17.3	17.3				
7½J	190.5	17.3	17.3				
6L	152.4	21.6	28.5				
6½L	165.1	21.6	28.5				

DIMENSIONS (mm)				
Rim	A	H min	G $\begin{smallmatrix} + 1.2 \\ - 0.4 \end{smallmatrix}$	P min
11	279.4 ± 5.0	10.0	25.4	50.0
12	304.8 ± 5.0	10.0	25.4	50.0

DIAMETERS						
Nominal diameter code	12	13	14	15	16	20
Diameter D (mm)	304.0	329.4	354.8	380.2	405.6	512.8

Flat base rims



DIMENSIONS (mm)			
Rim	A ±3.2	G ±2.5	R max
5.00 S	127.0 ± 3.2	33.3	
6.00 T	152.4 ± 3.2	38.1	
7.33 V	186.2 ± 3.2	44.0	20.0
9.00 V	228.6 ± 3.6	44.0	
10.00 V	254.0 ± 4.7	44.0	

DIAMETERS	
Nominal diameter code	
Diameter D (mm)	

Demounting and mounting

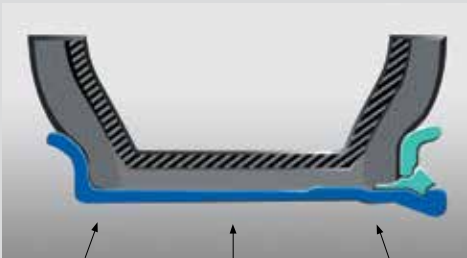
SAFETY INSTRUCTIONS

Do not demount or mount tyres without proper training. Wall charts containing demounting and mounting instructions for all on-highway rims should be available through your normal rim supplier.

Remove all cracked wheels from service



LUBRICATED areas shown by arrows



Use of A GG ring indicates correct mounting

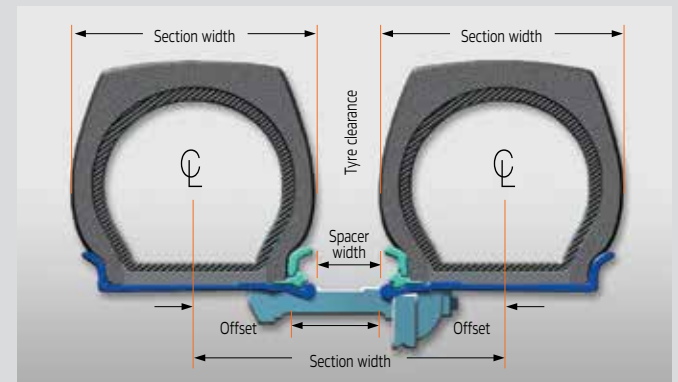


Proper sequence for tightening stud nuts on an 8 stud system



NOTE :
Always use a securely held safety cage and extension hose with a clip on air chuck for airing the tyre. Rapid air loss can propel the assembly.

Cross section through typical dual installation



Proper Matching of Rim Parts

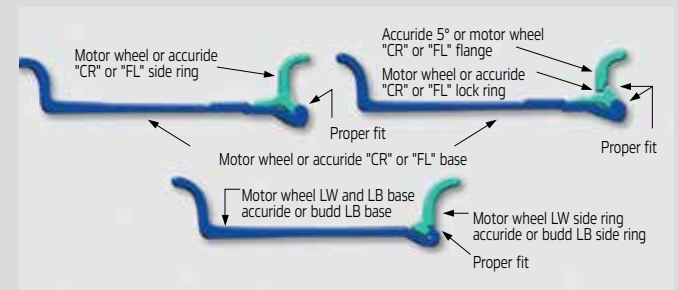


Figure 3.12
Correct and incorrect matching of rim parts

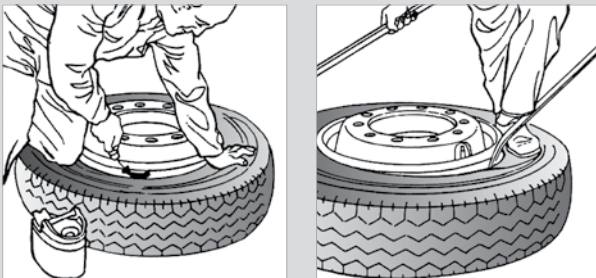
Tubeless tyre demounting

The tyre should be completely deflated before demounting, which is done by loosening and removing the valve stem core. Be careful there is no foreign matter left in the valve and that the valve stem is not cracked or damaged. Do not stand near the valve stem during the deflating process.

BEAD DEMOUNTING

Place the tyre assembly on a clean and flat surface with the valve facing upwards using a tyre demounting lever between the tyre bead and rim flange.

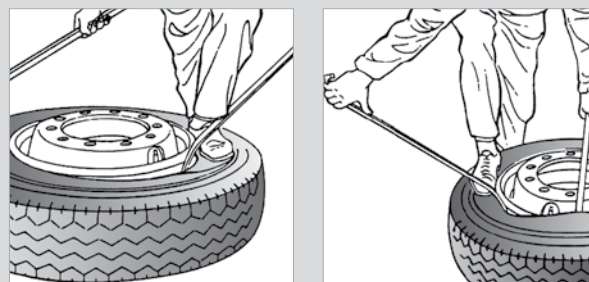
Bead demounting



OUTSIDE BEAD DEMOUNTING

Lay the wheel on a clean flat surface with the valve facing upward. Work the bead over the rim flange, using your hands and knees as in the illustration to the right. If it is difficult to fit over the flange, use the proper tyre mounting lever as per the illustration.

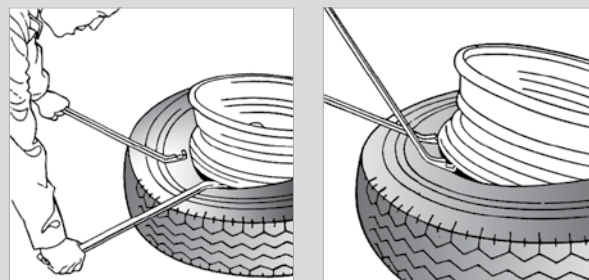
Outside bead demounting



INSIDE BEAD DEMOUNTING

Turn the tyre assembly over, then lubricate between the bead and the rim. Insert the tip of the tyre between the tyre lever and rim, then add pressure. Use the second lever about 15cm away from the first lever to remove the rim from the tyre. Repeat this procedure until the bead is completely demounted.

Inside bead demounting



Tubeless tyre mounting

RIM PREPARATION

Rims must not be broken or damaged.

Remove the rubber bushing from the valve stem hole and inspect the valve stem for any signs of damage or wear.

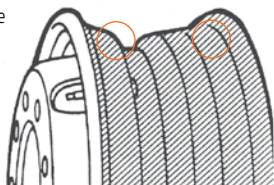
Remove rust, dirt and any foreign materials from the rim. Clean and sand smooth the area marked “///” in the picture below. If rusted, clean and repaint the rim surface to protect it from rusting.

If required, replace any worn or damaged valve stem.

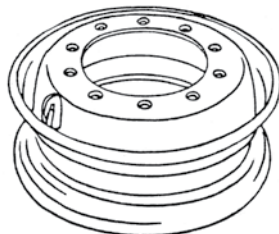
Lubricate the inner parts of the rim surface where the tyre mounts (marked “///”).

Base part of tubeless rim

Parts marked “///” are to be cleaned and re-lubricated



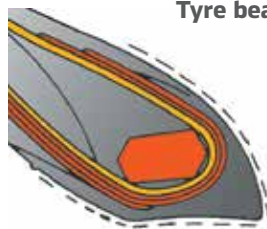
Base part of tubeless rim



TYRE PREPARATION

In the case of new tyres, wipe the bead clean with a dry cloth, checking at the same time that there are no damage, kinks or breakages. Apply the recommended lubricant to the tyre bead as per the illustration to the right.

Tyre bead cross section



INSIDE BEAD ASSEMBLY

Lay the wheel on a clean flat surface with the valve facing upward. Work the bead over the rim flange, using your hands and knees as in the illustration to the right. If it is difficult to fit over the flange, use the proper tyre mounting lever as per the illustration.



OUTSIDE BEAD ASSEMBLY

Start the outside bead placement over the outside rim flange by hand, beginning at the point where the valve stem is located. Once hand placement becomes difficult, use the proper tubeless tyre bead mounting lever to complete the job as per the following illustrations.

When mounting tyres, do not use excessive force and avoid heavy tools or impact such as hammering on the rim.



TUBELESS TYRE INFLATION

Use an inflation gauge, suitable remote air hose nozzle and a safety cage when inflating the newly mounted tyre. The lubricated bead should sit firmly to the rim flange at about 10 PSI inflation. Do not stand near or in front of tyre while inflating. Use the safety cage and stand a safe distance for your protection. If the bead fails to sit first, then rotate the tyre a few degrees around the rim, ensuring the bead and rim flange is lubricated and try again.

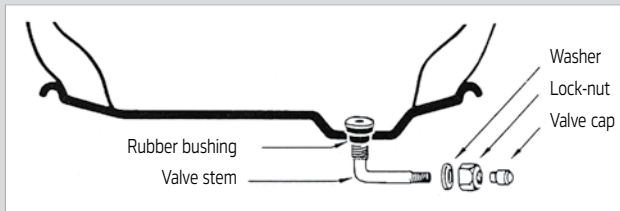
If for any reason the bead is not evenly seated with a comfortable fit, do not attempt to inflate further. Repeat the entire assembly process with more lubricant on the bead and rim areas. Once it sits and you are assured the bead and rim flange are at a snug and even fit all the way around, inflate the tyre to the recommended inflation pressure to the axle load. Check that the tyre or valve are not leaking, if so, tighten the valve cap.

Tubeless rim valve mounting

A-TYPE RIM VALVE

The valve hole in the rim must be clean, smooth and not damaged. Apply a recommended lubricant to the rubber brushing off the valve and insert the valve stem through the rim hole which will assemble the washer and lock-nut on the inside. Tighten the lock-nut with a wrench so that the valve stem is secured into the rim.

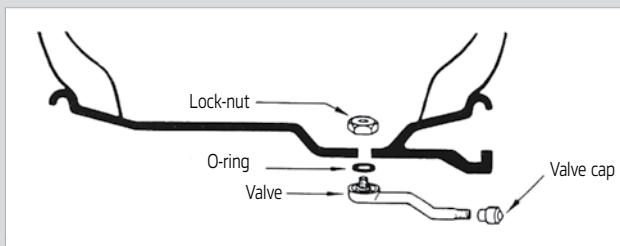
A-type rim valve



B-TYPE RIM VALVE

The valve hole in the rim must be clean, smooth and not damaged, as per the illustration below. Place a lubricated O-ring on the valve stem and insert the stem into the valve stem hole so that the valve faces perpendicular to the rim. The valve stem hole can be found in the rim. Tighten the lock nut with a wrench from the opposite side of the rim until the valve stem is secure.

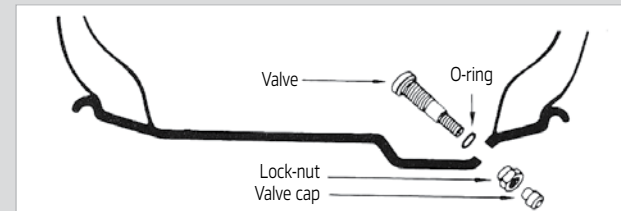
B-type rim valve



C-TYPE RIM VALVE

The valve hole in the rim must be clean, smooth and not damaged, as per the illustration below. Lubricate the O-ring and insert a new valve stem going through the O-ring. This should go through the valve stem hole in the rim from the inside. From the other side securely hand tighten the lock-nut.

C-type rim valve



About dual spacing

Mismatched duals have the same effect on the life of tyres as low inflation or overload. An underinflated tyre on a dual assembly shifts its share of the load to the adjacent tyre, which then becomes overloaded and frequently fails prematurely. When mounting duals on a truck, there will generally be some difference in the diameter of the 2 tyres (within the limits described below).

Mount the small tyre on the inside, the outside tyre wears faster than the inside tyre. As it wears its diameter will approach that of the inside tyre. Additionally, any crown on the road will favour the placement of the smaller diameter tyre on the inside.

The difference in dimensions of the tyres on a dual assembly should never exceed the figures shown in the table below. The measurement and pairing of duals is very important when mounting a new set of radial recaps.

All caps are on the same tyre type and all have the same overall diameter. The service they were subjected to prior to capping may have an effect on the size of the retreaded tyre.

DUAL MATCHING TOLERANCE

Tyre size	Diameter (in.)	Circumference (in.)	Radius (in.)
8.25R20 and under	0 to 1/4	0 to 3/4	0 to 1/8
9.00R20 and up	0 to 1/2	0 to 1-1/2	0 to 1/4
Twin screw (all sizes)	0 to 1/4	0 to 3/4	0 to 1/8

Rim width and tyre spacing

RADIAL AND BIAS PLY TYRES			
Tyre size	Alternate rim (wide) is this correct? (narrow)	Tyre section width	Minimum dual spacing without chains
7.50	6.5	8.65	9.9
	6.0*	8.45	9.7
	5.5	8.25	9.5
8.25	7.0	9.50	10.8
	6.5*	9.30	10.6
	6.0	9.10	10.4
9.00	7.50	10.40	11.9
	7.0*	10.20	11.7
	6.5	10.00	11.5
10.00	8.0	11.15	12.7
	7.5*	10.95	12.5
	7.0	10.75	12.3
11.00	8.5	11.75	13.2
	8.0*	11.55	13.0
	7.5	11.35	12.8

TUBELESS (HIGHWAY SERVICE)

Tyre size	Alternate rim (wide) is this correct? (narrow)	Tyre section width	Minimum dual spacing without chains
9	7.50	9.30	10.6
	6.75*	9.00	10.3
	6.00	8.70	10.0
10	7.50*	10.00	11.4
	6.75	9.70	11.1
11	8.25*	11.00	12.6
	7.50	10.70	12.3
12	9.00*	11.80	13.5
	8.25	11.50	13.2

LOW PROFILE TUBELESS

Tyre size	Alternate rim (wide) is this correct? (narrow)	Tyre section width	Minimum dual spacing without chains
225/70	6.00	8.60	9.70
	6.75*	8.90	10.00
244/70	6.75*	9.46	10.68
245/75	7.50*	9.76	10.98
255/70	7.50*	10.04	11.30
265/70	7.50*	10.31	11.61
265/75	8.25	10.61	11.91
275/70	8.25	10.86	12.24
285/70	7.50*	10.84	12.22
285/75	8.25*	11.14	12.52
296/75	8.25	11.43	12.89
9.00*	11.73	13.19	