

New Generation Wide Based Single Wheel Considerations

Wheel and axle specific questions should be directed to those manufacturers. The information contained in this bulletin is for reference only. It has been gathered from the wheel and axle manufacturers and is subject to change at any time.

When considering a MICHELIN® X One® tire retrofit it is important to understand the different wheel solutions available. Below are some important factors to know when managing wheels for new generation wide based single (NGWBS) tires:

1. Alcoa, Accuride, and Hayes Lemmerz are the three main manufacturers of 13.00 and 14.00 inch wheels with a 15-Degree Drop Center Wheel Specification for the MICHELIN® X One® tire. It is recommended that the 13.00 x 22.5 inch wheel be used only on the steer axle and 14.00 x 22.5 inch wheel on the drive and trailer axles.
Under no circumstances should a 12.25 x 22.5 inch wheel be used to fit a MICHELIN® X One® tire.
2. For drive tires, there are **4 different outsets** available for 14.00 x 22.5 inch wheels. It is imperative that the person servicing your fleet know which outset is needed.
3. Today, it is standard practice for fleet managers, fleet technicians, tire service professionals, and ERS providers to specify which MICHELIN® X One® tire tread design they are utilizing. **It is imperative that the fleet managers and service providers also specify which wheel size and outset is needed.** It has been common practice to assume that all new generation wide based single tires are running on a 2" outset wheel. This assumption can no longer be made as axle manufacturers are bringing different approved solutions to the industry.
4. **It is recommended that all wheels on the same axle have the same outset. Mixing wheels of a different outset across an axle may cause irregular tire wear and other related maintenance issues.**

STEER AXLE WHEELS:

Accuride and Hayes Lemmerz offer the approved 13.00 x 22.5 inch steel wheels. The 13.00 inch wheel is the only approved wheel for the MICHELIN® X One® tire on the steer axle (14.00 inch wheel is not approved). The Federal maximum width of 102 inch can be achieved with the 13.00 inch wheel with an inset of 4.32 inch which gives a 101.5 inch overall track width which is within the legal limit. The matrix below shows the available and approved wheels for the steer position fitted with a MICHELIN® X One® tire.

13.00 x 22.5 – 15-Degree Drop Center Specification – Wheel Considerations				
Truck	Axle Length	Wheel Inset	Accuride	Hayes
6x4	Standard	4.32	Steel Wheel	Steel Wheel
6x2	Standard	4.32	Steel Wheel	Steel Wheel
4x2	Standard	4.32	Steel Wheel	Steel Wheel

DRIVE AXLE WHEELS:

All three wheel manufacturers offer aluminum and/or steel 14.00 x 22.5 inch wheels that can be used on the drive axles. The wheels are offered in 0", 0.56", 1", and 2" outsets depending on the manufacturer. The wheel outset used is dependent on the axle type and length. The matrix below shows approved and available wheels and wheel outsets for the major axle manufacturers by vehicle type. (NA - Not Available.)

14.00 x 22.5 – 15-Degree Drop Center Specification – Wheel Considerations Axle Alliance Approved Wheels					
Truck	Axle Length	Wheel Outset	Alcoa	Accuride	Hayes
6x4	Standard	2"	Aluminum Wheel	Aluminum Wheel, Steel Wheel	Steel Wheel
6x4	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Wide	0"	Aluminum Wheel	Steel Wheel	Steel Wheel
6x4	Intermediate	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Intermediate	0"	Aluminum Wheel	Steel Wheel	NA
6x2	Standard	1"	Aluminum Wheel	NA	NA
6x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA
4x2	Standard	1"	Aluminum Wheel	NA	NA
4x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
4x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA

14.00 x 22.5 – 15-Degree Drop Center Specification – Wheel Considerations Dana Approved Wheels					
Truck	Axle Length	Wheel Outset	Alcoa	Accuride	Hayes
6x4	Standard	2"*	Aluminum Wheel	Aluminum Wheel, Steel Wheel	Steel Wheel
6x4	Standard	1"	Aluminum Wheel	NA	NA
6x4	Standard	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Standard	0"	Aluminum Wheel	Steel Wheel	NA
6x4	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Wide	0"	Aluminum Wheel	Steel Wheel	NA
6x2	Standard	2"*	Aluminum Wheel	Aluminum Wheel, Steel Wheel	Steel Wheel
6x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA
4x2	Standard	2"*	Aluminum Wheel	Aluminum Wheel, Steel Wheel	Steel Wheel
4x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
4x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA

14.00 x 22.5 – 15-Degree Drop Center Specification – Wheel Considerations Meritor Approved Wheels					
Truck	Axle Length	Wheel Outset	Alcoa	Accuride	Hayes
6x4	Standard	0.56"	NA	Aluminum Wheel	NA
6x4	Standard	0"	Aluminum Wheel	Steel Wheel	NA
6x4	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Wide	0"	Aluminum Wheel	Steel Wheel	Steel Wheel
6x4	Intermediate (DualTrac)	0.56"	NA	Aluminum Wheel	Steel Wheel
6x4	Intermediate (DualTrac)	0"	Aluminum Wheel	Steel Wheel	NA
6x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
6x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA
4x2	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel
4x2	Wide	0"	Aluminum Wheel	Steel Wheel	NA

Note: Alcoa's 0" outset wheel could be used in a 1" configuration when the wheel is reversed. The valve stem will need to be turned outboard when the wheel is reversed.
* Dana approves 2" outset on 11.0 mm axle housings. Dana does not approve 2" outset wheels on 9.5 mm axle housings.

TRAILER AXLE WHEELS:

All three wheel manufacturers offer aluminum and/or steel 14.00 x 22.5 inch wheels that can be used on the trailer axles. In order to achieve optimum track width and stability a 2" outset wheel is recommended on the standard trailer axle.

14.00 x 22.5 – 15-Degree Drop Center Specification – Wheel Considerations					
Configuration	Axle Length	Wheel Outset	Alcoa	Accuride	Hayes
Trailer	Standard	2"	Aluminum Wheel	Aluminum Wheel, Steel Wheel	Steel Wheel
Trailer	Wide	0"	Aluminum Wheel	Steel Wheel	NA
Trailer	Wide	0.56"	NA	Aluminum Wheel	Steel Wheel

Note: 1" outset wheel is NOT approved on trailer axle. The 2" outset wheels should only be used on "P" spindle trailer axles.

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