

## WHEEL DEFINITIONS

**WHEEL** - The rotating part of the vehicle that carries the load of the vehicle and passes the torque. The wheel is located between the tire and the hub. Wheels can consist of a rim and a disc assembled together or just the rim.

**RIM** - The part of the wheel that serves as the seat for the tire. Rims can be classified as single piece rims or multi-piece rims.

**SINGLE PIECE** rims have a one piece rim design

**MULTI PIECE** rims consist of the rim as well as rings mounted on the rim

**DISC** - The connecting part between the wheel and the hub of the vehicle. It can be welded on or connected with bolts to the rim

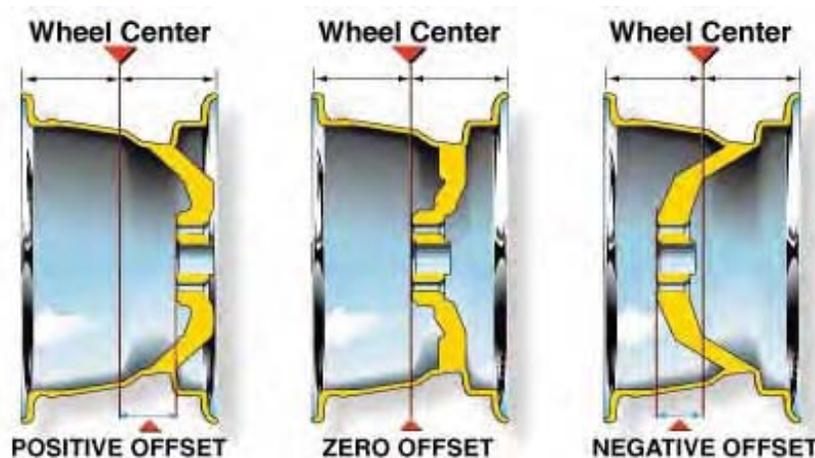
**HUB** - The central part of a wheel that the shaft or axle passes through.

**BOLT PATTERN OR BOLT CIRCLE** - The number of studs and the diameter of the circle on which they are positioned

**STUD CENTERED WHEEL** - A system where the studs on the wheel hub are used to guide and center the wheel. Chamfered bolt holes identify a stud centered wheel. These wheels are designed to be centered by conical or spherical nuts on the studs.

**HUB CENTERED WHEEL** - A system that uses the actual wheel hub to guide and center the wheel. Hub centered wheels usually have straight bolt holes with no ball seat for nuts and flat washer or flange nuts. The wheels require a narrow tolerance of center hold dimensions.

**OFFSET** - The offset is a dimension from an imaginary rim center line to the outer disc surface. A disc wheel offset can be positive, negative or "zero-offset." *This is one of the most important dimensions of the disc wheel.*



## North Shore Wheel Ordering Guidelines. *Help Us - Help You!*

There are tens of thousands of different wheels available to fit machines in use today. In order to help us help you get the wheel you need we need some information from you when you contact us. Here is a guideline to information you will need to consider:

1. **Tire Size?** \_\_\_\_\_  
**Radial or Bias Ply?** \_\_\_\_\_  
**Tread style?** \_\_\_\_\_  
**Tire application?** \_\_\_\_\_  
**Tire operating pressure?** \_\_\_\_\_  
**Operating speed of the tire under load?**  
 \_\_\_\_\_

You may be looking for a wheel or rim, but we need to know the tire size, radial or bias, tread style and application to figure out what kind of rim or wheel you need. *Very important!* The tire size and type dictates the style of rim or wheel that can be used to mount the tire. Tire pressure and operating speed tells us more about the type of rim/wheel required for the machine and application. For example; there is a big difference between the kind of rim required for a 14.00-24 R1 tire used in an agricultural application or a 14.00-24 G2/L2 used on construction equipment or a 14.00R24 TG, or a 14.00R24 tire used on off the road truck or trailer application.

### 2. Rim style? How many pieces?

- A. 1 piece rim/wheel. Could be one of many different rim profiles manufactured.
- B. 2 piece (rim/wheel and side ring/lock rim combination)
- C. 3 piece (rim/wheel, side flange and separate lock ring).
- D. 4 piece (rim/wheel, (2) side flanges and separate lock ring)
- E. 5 piece (rim/wheel, (2) side flanges, bead seat band, and separate lock ring, many also be driver key used)
- F. Super giant wheels used in very large mining trucks may be built with 6, 7 or 8 pieces.

**3. Steel stampings or labels?** This is very important. Are there any identifying part numbers or designations stamped or part number labels on the rim/wheel? These stampings can help us greatly in identifying the manufacturer, part number or a drawing, the style of the rim/wheel, material thickness or date and country of manufacture.

**4. Rim or wheel?** Is the rim an open center with no disc? That would make it a “demountable” rim. If the rim has a disc welded to the rim then it would be a “wheel”.

**5. How many bolt holes are in the disc?** How thick is the disc? Is the disc flat or is it formed in a particular shape?

**6. Can you measure the disc offset** (where the disc is welded in the rim relative to the front of the wheel and the back of the wheel)? If it is a wheel (a rim with a disc welded to it) then count the holes. Are the holes equally spaced around the disc or are they drilled in patterns (2 holes, space, 3 holes, space, etc...)?

**7. What is the bolt hole pattern?** Can you measure the bolt circle? Can you measure the pilot hole?

### 8. What is the diameter of the bolt holes?

Are the bolt holes drilled straight through with no chamfers or do they have chamfers machined into the holes? Are the chamfers on one side only or on both sides?

### 9. Where is the valve hole located on the rim?

Are there any valve guards welded on the rim/wheel?

**10. Are there any other items welded to the rim/wheel** such as flange reinforcements, driver pockets, special valve holders, driver blocks or other items not described here?

You can see from all the information we need that with all these items taken in aggregate, the number of wheel variations can number in the hundreds of thousands. Please go to Page 9 and you will find an easy spec sheet to record this information prior to contacting one of our staff. We are glad to help you with questions about your wheel order(s).