Wheels
Work Instructions

Wheels - Work Instructions
Release 1 – August 2024

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1. Wheel inspection standards

The following are general guidelines for wheels passing and not passing inspection for shipping.

When inspecting wheels, no wheel will be 100% cosmetically perfect.

Wheels are a functional part of the vehicle. Wheel inspection involves common sense and subjectivity.

Tire Rack's standard for cosmetic defects is that if you cannot see a visible defect from 3' (one meter), it is acceptable to ship.

General Inspection Guidelines

- 'A' Surface = outer face of the wheel, from rim edge to center
    - No pits or porosity allowable.
    - The 3' visual standard applies to cosmetic flaws on the face.
- The majority of rejections are from porosity found on the back of the spokes. This area is not considered to be an 'A' cosmetic surface; it is either a 'B' or 'C' surface. All other surfaces, non-cosmetic, 'B' and 'C' surfaces
    - Minor pitting and porosity are allowed.
    - Pits larger than 3mm (1/8") across and / or deeper than 3mm (1/8") are not allowable. Reject if larger.
    - Many of the wheels have 'as cast' surface in the spoke recesses. These are allowed.
    - Cosmetic cover-up (paint touch up, filler, etc.) are allowed. If the area 'bleeds' or shows a discoloration from the surrounding color, the wheel is to be rejected.

Paint Issues

- Color finish issues visible from 3' are not acceptable
- If the finish does not match, please scan the wheels, and send hardware support the color numbers for each wheel
- Please take photos of the wheels side by side and send to hardware support
- Always compare wheels to the sample on Tire Rack website to determine which finish is correct
- Wheels and painted cover plates should match
- **Circle the defects on the wheel with a wet erase marker and note the location in the A09 notes**

Stock may be unavailable in other warehouses, and the remaining stock exceeds the inspection guideline criteria. If the wheel's structural integrity does not appear to be compromised, take a photo and email Hardware support for directions on the wheel. If it is a cosmetic flaw, customer service or sales will send the picture to the customer for shipping approval.

2. Wheel Area Tools Needed

<table>
<tr>
<td>Valve puller- alloy wheels
 
*Myers Part # 22631</td>
<td>Valve puller- steel wheels
 
*Myers Part # 22634</td>
</tr>
<tr>
<td>Schrader torque wrench w/11&12mm sockets
 
<u>Must be calibrated every 6 months by:</u>
JKM Calibration
1017 S 400 E
Rochester, IN 46975

Attn: Kent Mills PH 877-434-6122 Fax 574-966-1500
*TTR Part # NUTTORQ3</td>
<td>Bolt pattern tool
*Myers Part # 89345
(Check bolt patterns from the back hub of the wheel.)
  </td>
</tr>
<tr>
<td>Star Bit Tool
  </td>
<td>Utility Knife
  </td>
</tr>
<tr>
<td>Mallet
  </td>
<td>Box Cutter
  </td>
</tr>
</table>

Workflow Instructions

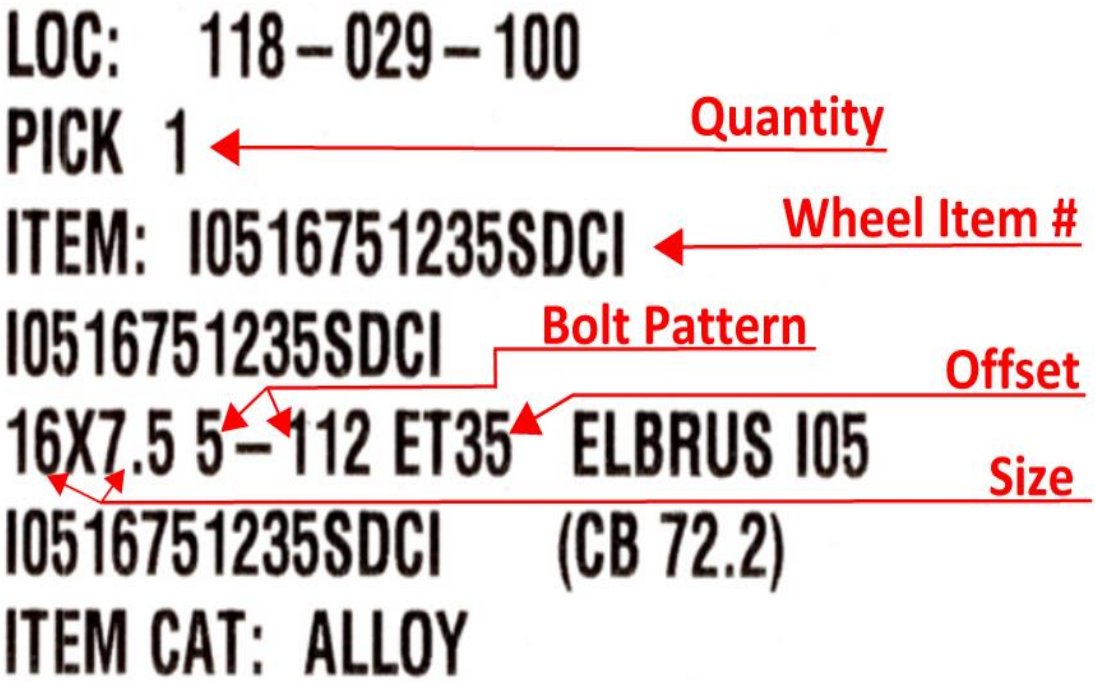
3. Setup

3.1 Match order number on wheel and hardware tote to determine correct match.

Example of matching the wheel and hardware tote order using the wheel pick label and hardware tote order.

3.2 Using the picking label, check and confirm the following:

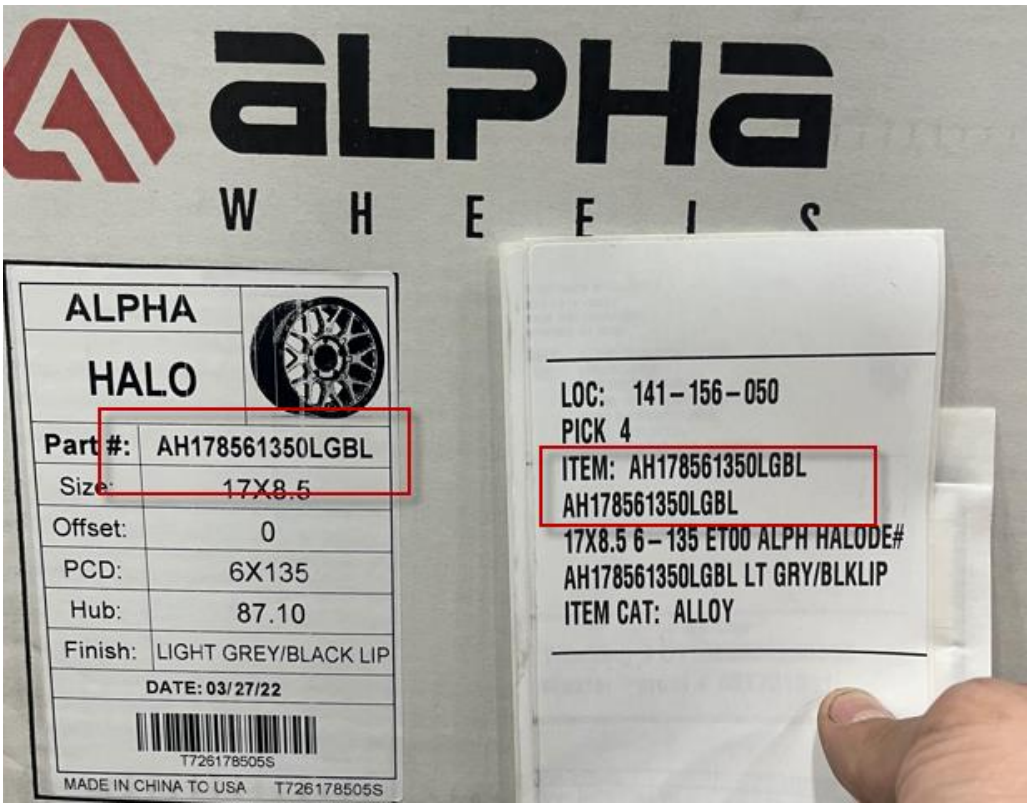
A. Wheel part #
B. Wheel quantity
C. Bolt pattern
D. Offset
E. Center bore by using the picking label



F. **Additional Identifiers:**

a. **< or >** Center cap is optional for this wheel
(a) If no cap is listed on the order, okay to ship without cap

b. **“** Center cap is included (free) with wheel, but does not come in the box
(a) Cap will be a line item on order and picked with other accessories
(b) Shown between wheel brand and model **(15X6.5 4-100 ET40 SE”CD)**
a. If no cap on order, hold order and send to fitment support

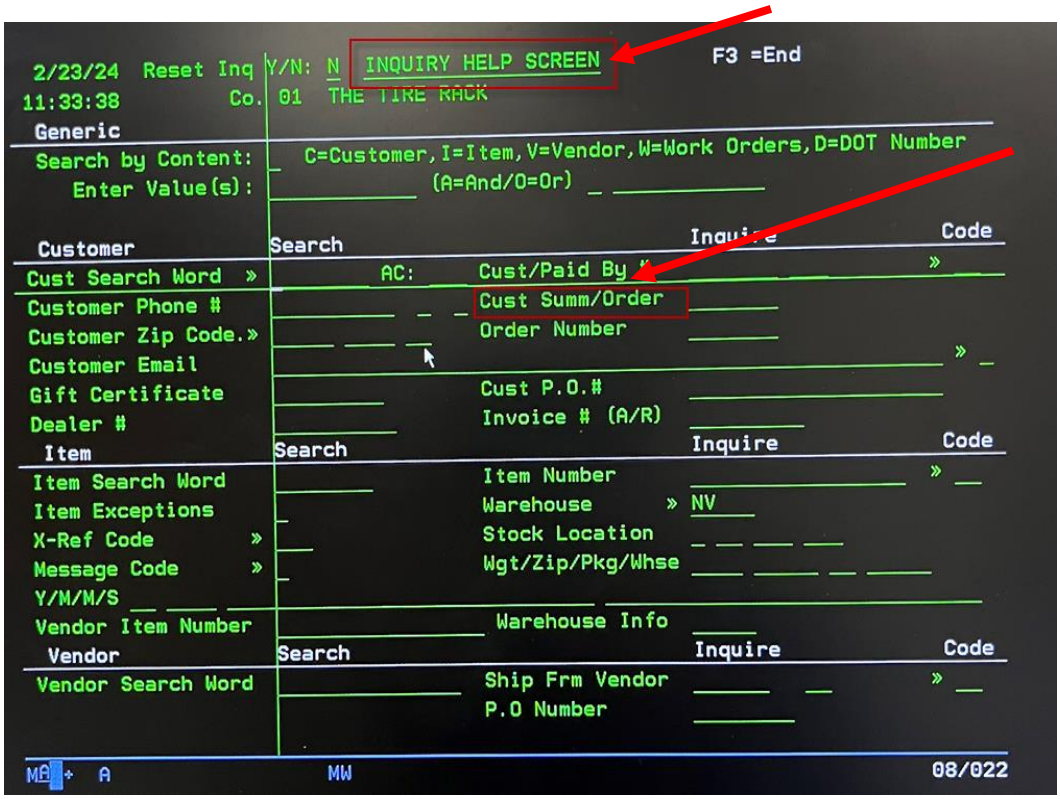


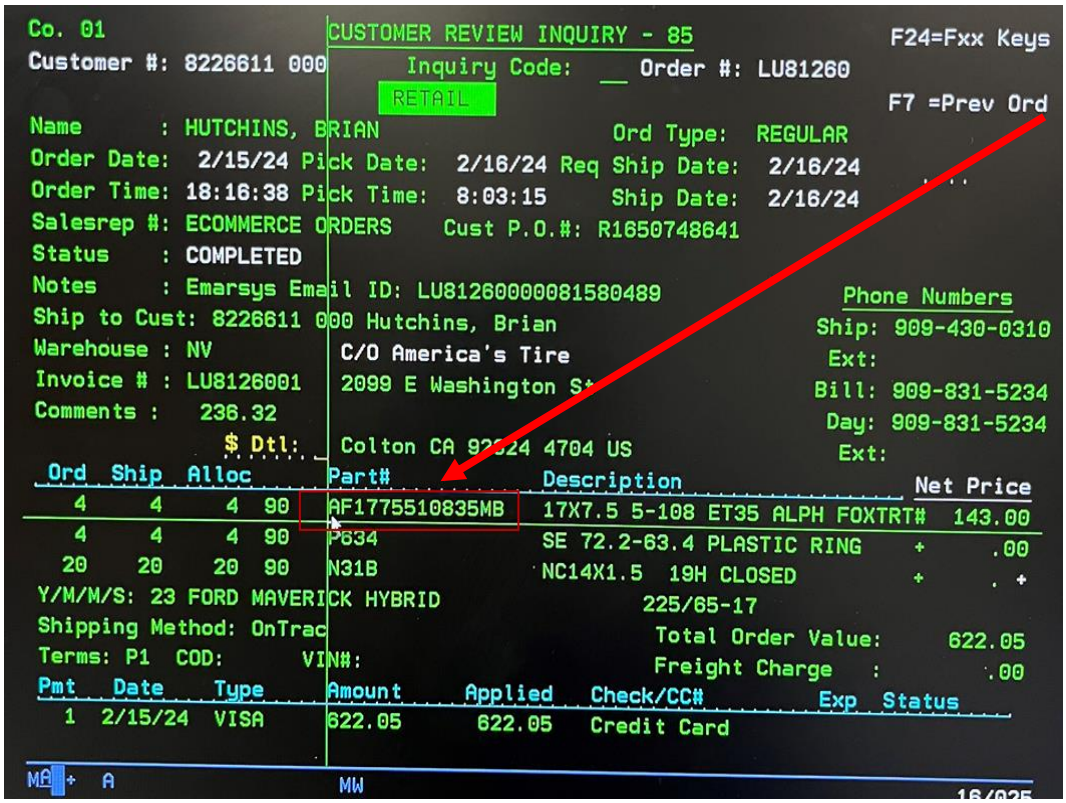
3.3 Verify wheel design

A. Flip all wheels to ensure the face design matches the website picture reference

3.4 Use the **AS400 INQUIRY HELP SCREEN**

A. Type order # in the **CUST SUMM / ORDER** line, then press **ENTER**



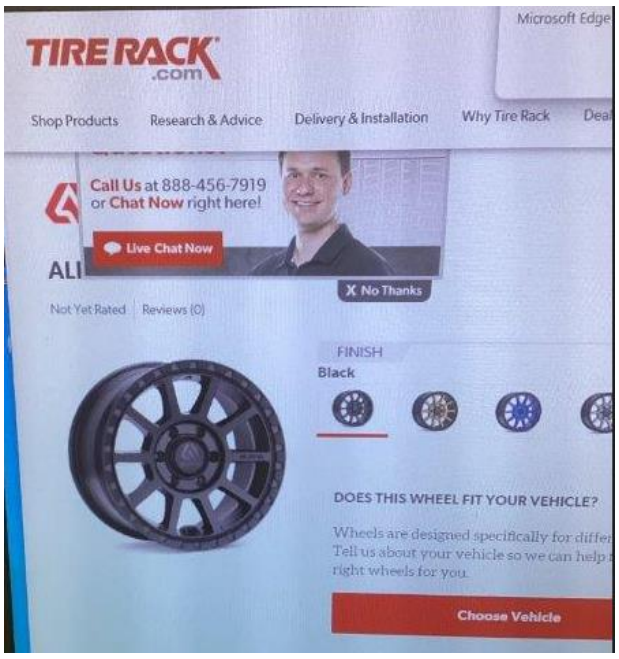


3.5 Locate the wheel part number, place the cursor under it

A. Hit **F8**, then **TAB + ENTER**

B. The wheel picture will appear as customers see it on the website

a. Check if the Wheel pattern and center cap match the website. Inspect for any cosmetic flaws and possible damages. Install TPMS or specialty valve stems (if any). The employee must install all caps unless the cap is too tall or surpasses wheel face height.



3.6 Scan shipping label to parcel audit

A. Setup staff should be logged into **WHSET** on RF scanner
B. Scan Parcel

3.7 Install all:

A. Valves
B. Sensors
C. Caps
D. Center rings
E. Optional metal valves

Refer to Appendix – Installing Valves (Pg 20) for additional details

3.8 Place wheels on rollers

A. Wheels should be set facing down

B. Open boxes to confirm bolt pattern

C. Verify offset

D. Install centering rings (if any) on wheels

E. Apply an orange “important” sticker over center ring on hub

4. Packaging

Quick Overview-

Package processing is responsible for:

- Checking that all hardware is installed and shipped with the package
- Use the correct size box is used for double-boxing the wheels
- Hardware is in the wheel box if applicable
- Correct stickers are applied to the order
- Any loose sticker, package in a hardware bag and label it **STICKERS**
- **Ensure hardware box is properly package and visible to our customers**

4.1 Once hardware is installed on the wheel, the employee must:

A. Install face protection back on the wheel and place it facing down on the box

B. The Remaining Lug nuts, Bolts, and additional hardware must be counted, packaged, and sealed inside the corner box

C. Insert the box on the wheel package closest to the computer set-up and apply the pick hardware label and red HARDWARE ENCLOSED sticker outside the box

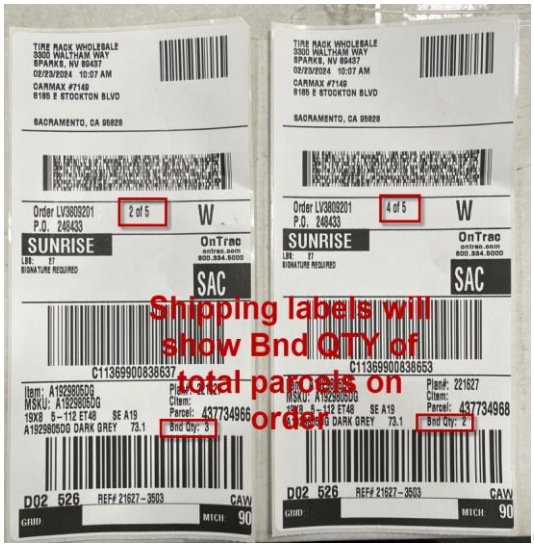
D. All packaging material that came out of the box must be placed back into the wheel box before the box is re-taped and prepared for packaging

4.2 Check banded quantities on shipping labels to determine how many packages will be needed

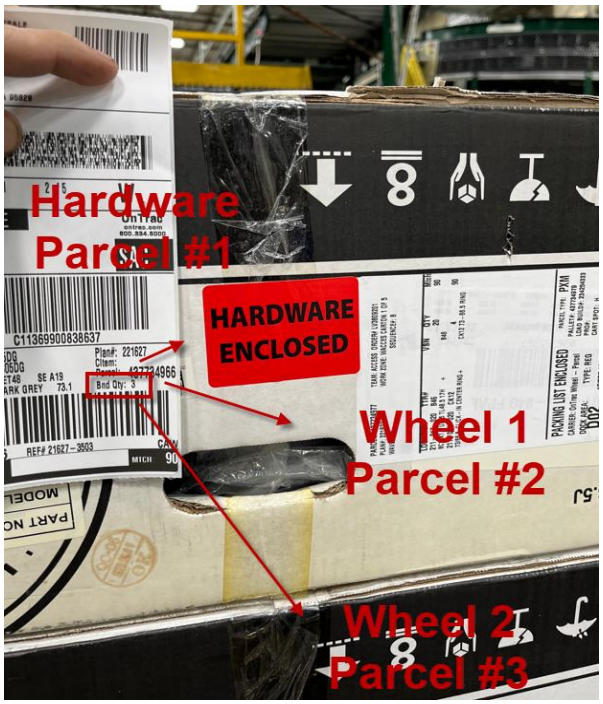
A. When banded qty specifies **BND QTY: 1**
   a. It means the parcel must be packaged individually
B. If it shows **BND QTY: 2**
   a. It must be packaged as double

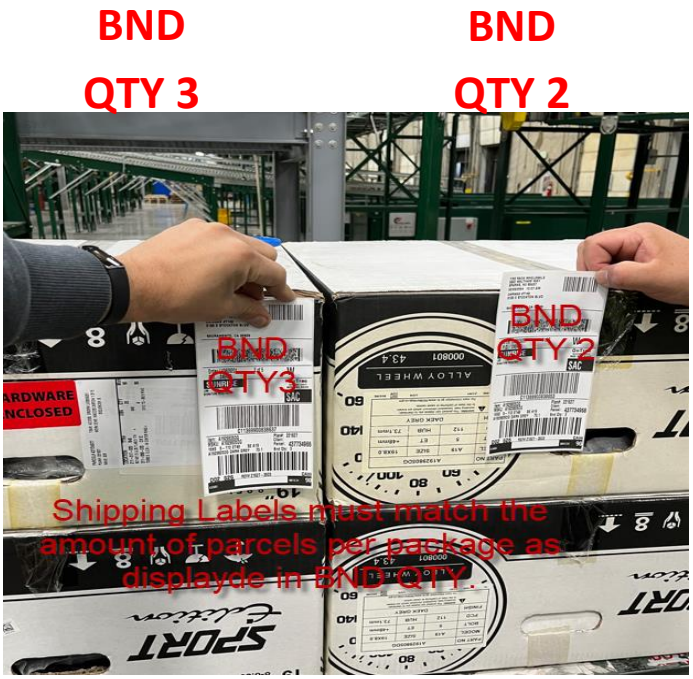
4.3 Ensure shipping labels are applied to the corresponding box.

A. For example, if an order has hardware, the wheel box with hardware will have the shipping label with greater **BND QTY**. if single wheel and hardware, the label will appear as **BND QTY: 2**
B. If doubled, it will appear as **BND QTY: 3** Apply Hardware enclosed sticker (Red) **INVOICE ENCLOSED** sticker (Blue) outside package with hardware
   a. **NOTE:** you must use a **RECYCLED BOX** sticker (Red and white) for all double box wheels. Ensure all labels/stickers are applied on the same side of the package



(Shipping label will show Bnd QTY of total parcels on order)





Shipping labels must match the amount of parcels per package as displayed in BND QTY

4.4 Scan shipping label to parcel audit

A. Setup staff should be logged into **WHSET** on RF scanner
B. Scan Parcel

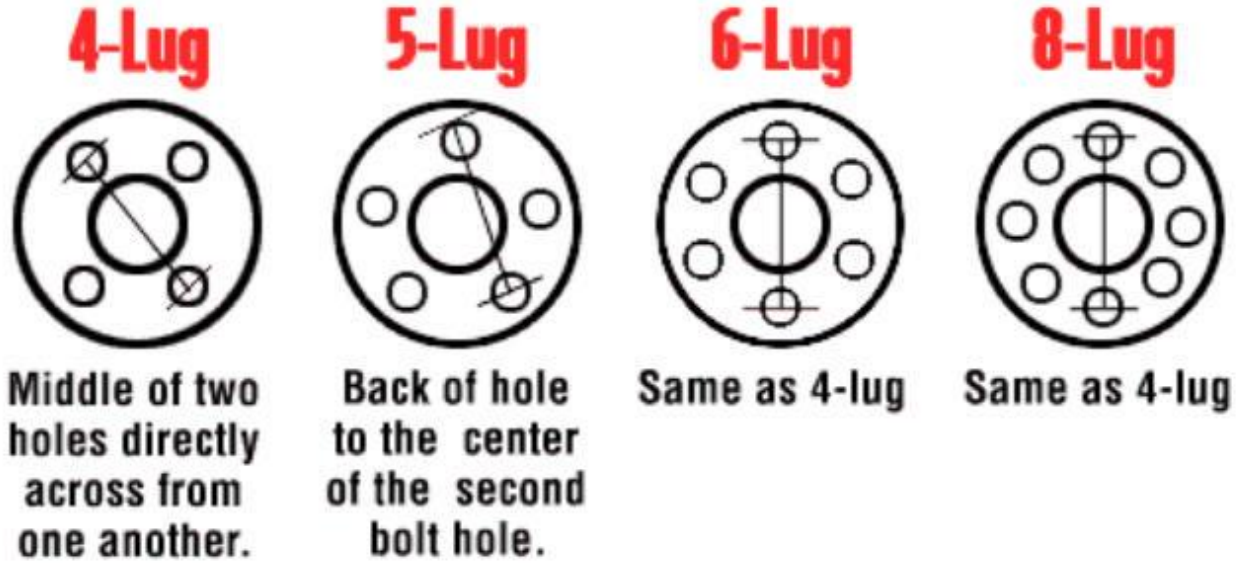
4.5 Packaging and boxing wheels

A. Use a bigger recycled box to package and double-box wheels
B. Make sure all sides of double-packaged boxes are covered and enclosed
C. The wheel package must be strapped (6) times if it is a single wheel and (8) times if it is a double wheel
    a. Straps must be tight and cannot cover shipping label barcodes.

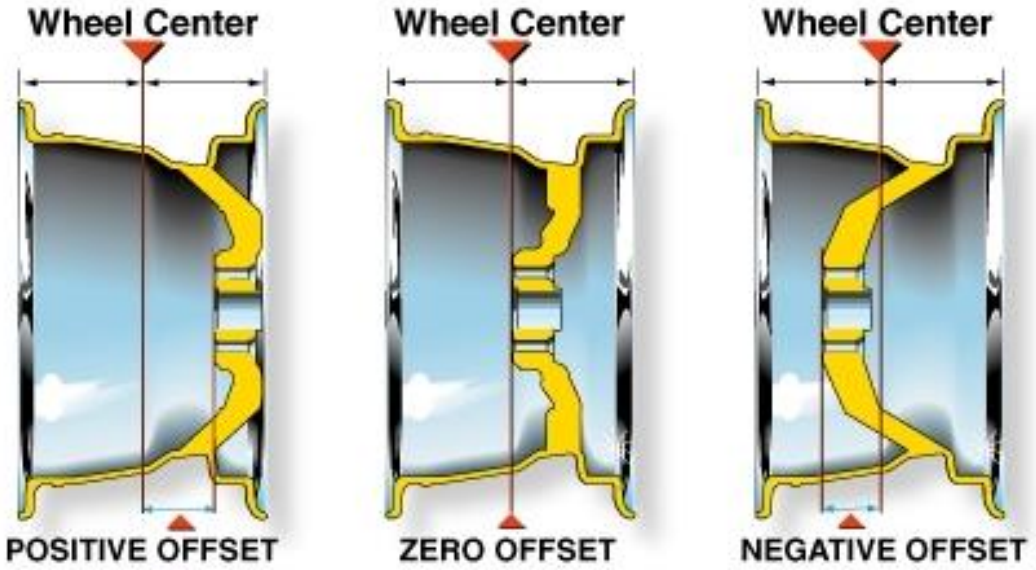
For any recycled boxed make sure STOP sticker is used.

APPENDIX

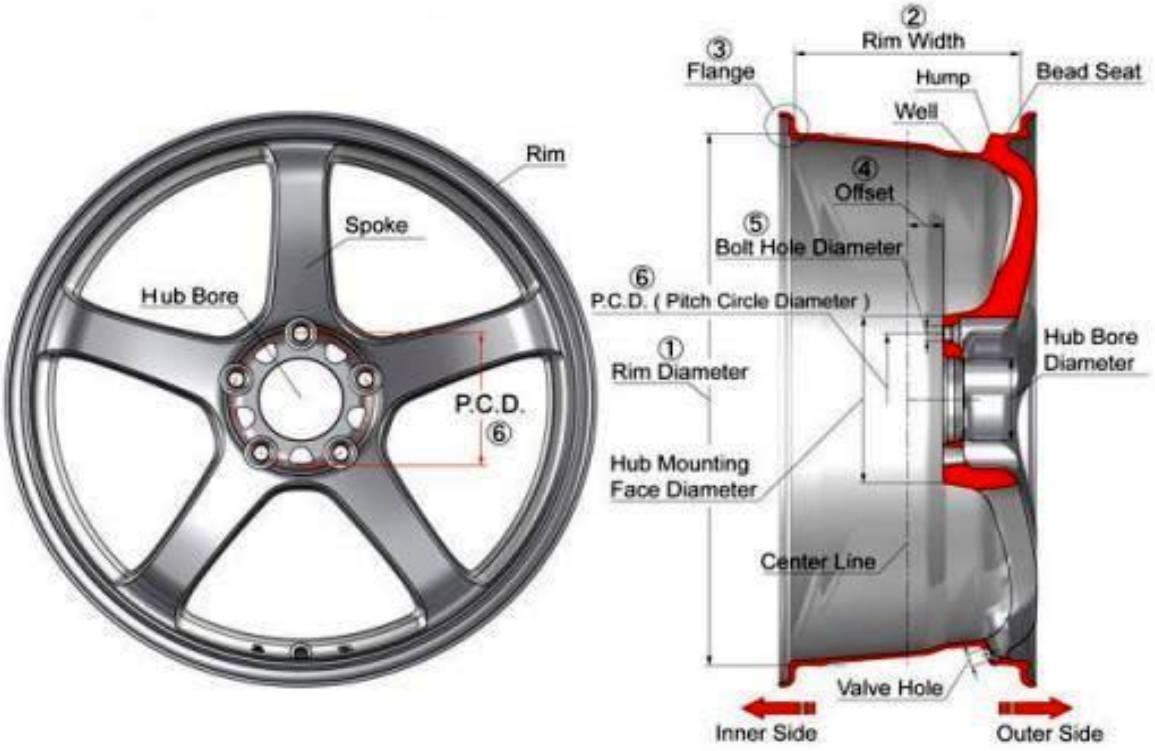
How to measure bolt patterns



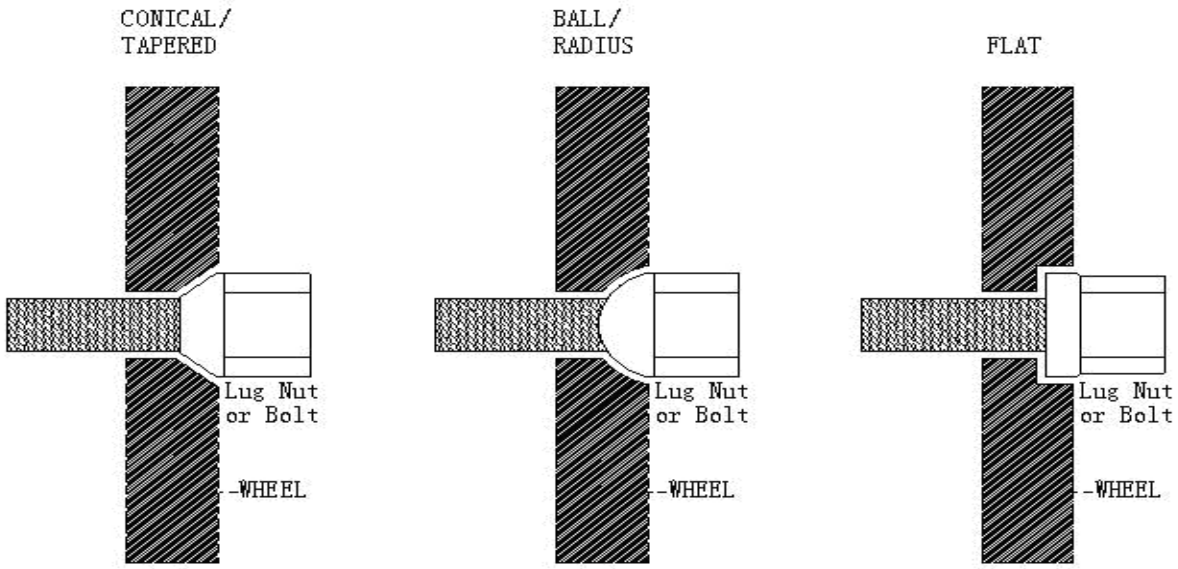
Difference in wheel offsets



Different components of a wheel



Difference in lug seat types



Bolt Pattern Conversion

4 x 3.93	**4 x 100**
4 x 4.25	**4 x 108**
4 x 4.33	**4 x 110**
4 x 4.5	**4 x 114**
4 x 5.12	**4 x 130**
4 x 5.51	**4 x 140**
5 x 4.00	**5 x 100**
5 x 4.25	**5 x 108**
5 x 4.5	**5 x 114**
5 x 4.75	**5 x 120**
5 x 5	**5 x 127**
5 x 5.5	**5 x 139**
6 x 4.5	**6 x 114**
6 x 5	**6 x 127**
6 x 5.5	**6 x 139**
8 x 6.5	**8 x 165**

Installing Valves

-**Small rubber valves (#413)** - alloy wheels, unless manufacture has provided a valve, or the customer ordered TPMS sensors/metal valves.

-**Large rubber valves (#418)** - steel wheels only, unless customer has ordered TPMS sensors.

-High Pressure rubber valves (TR600HP/TR602HP)-must be used with tires load range D and higher.

Installing TPMS Sensors

Install using provided valve nut and make sure that all rubber/metal washers are not in the way of rubber grommets. When installing certain valves/sensors that have a break-away washer inside, the valve nut needs to be finger-tightened and then torque down. Between 5-15 in.lbs. the internal washer inside the valve nut will break and the valve nut will be able to be torque down to its proper spec.

Correct

Nothing in the way of the rubber grommet

Incorrect

Washer on Bottom

-Torque to the specified NM (Newton Meter) on the hardware label.

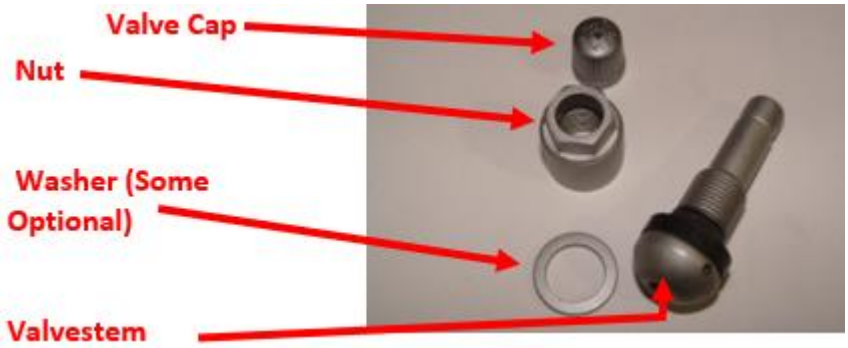
Installing Beru Style/Huff Sensors

Sensor

Valve kit

1. Remove valve cap, nut, and washer from valve stem.

Valve stem and sensor can be connected prior to installing in the wheel on certain applications.



2. Insert valve through valve hole of wheel and place washer on top of the valve stem.

No washer

Washer on Top

3. Place nut on top of valve stem and screw on finger tight.

4. Adjust torque wrench to specified torque and tighten till proper NM(newton meter) is reached.

Sensor must be parallel with wheel

Torque wrench must be calibrated once every 6 months by:

JKM CALIBRATION

1017 S 400 E

Rochester, IN 46975

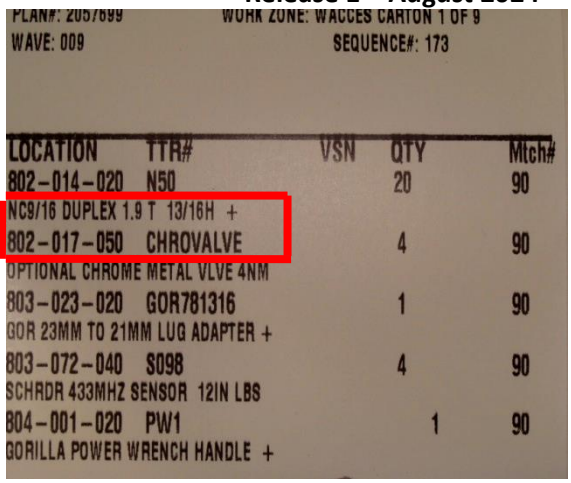
Attn: Kent Mills

PH 877-434-6122 Fax 574-966-1500

5. Install valve cap and double check sensor is tight.

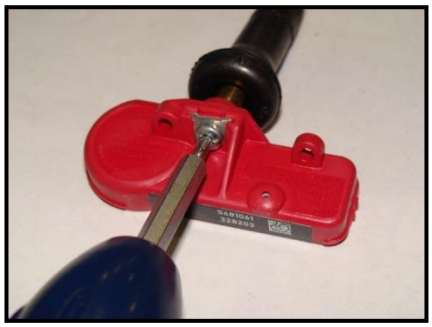
Replacing rubber valves with metal valves

Certain valves on sensors are interchangable with optional metal valves that the customer has purchesed at an addtional price. These valves will be in the hardware tote and noted on the hardware label. After removing rubber valves throw away. **DO NOT send with order**.

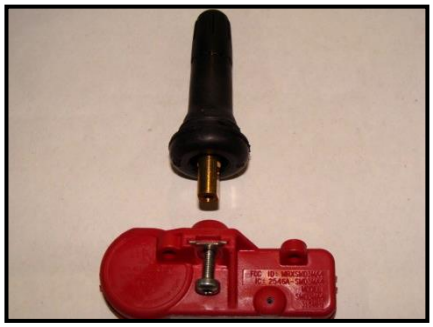


Optional metal valve

1. Using the Dill torque tool remove valve stem screw from the back of valve stem.



2. Pull rubber valve stem away from sensor.



3. Place metal valve into same slot as previous rubber valve.

4. Tighten screw with Dill tool until it clicks, the torque for this tool is preset at 12 inch lbs.