

A large, grey, stylized version of the Crown logo is centered on the slide. It is positioned above a horizontal dashed orange line.

# Wheel and Tire Program



# Agenda

- **Wheel and Tire Program**
  - Brochure
  - Features
- **How do you Sell?**
  - Understand customer application
  - Three step process
  - Customer Profile
  - Testing
- **Rubber Tires**

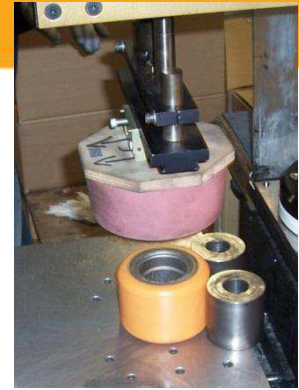


# Crown's Wheel and Tire Program

- Brochure
  - Wheel Features
  - Maximize Savings
  - Increase Productivity
  - Improve Safety
  - Find the Right Solution



# -Features of a Crown Wheel or Tire



**Crown Brand**  
All genuine Crown wheels have an identifier code stamped into the hub and Crown Integrity Parts System® with compound number on the wheel.

**Tread/hub ratio**  
Proper ratio of tread to hub thickness maximizes wheel/tire life.

**Bonding**  
Consistent, quality processes ensure durability of polyurethane and bonding agent.

**Hub**  
Because the hub is a heat sink, hub thickness, material, bearing quantity and size all affect performance.

**Manufacturing process**  
Heavy-duty wheels must have tight bearing bores and good overall concentricity for optimum performance. Light-duty wheels require less hub thickness and tolerances.

**Compound**  
Correct polyurethane formulation determines capacity and durability.

# Series Designation

We make it easier for the customer to make the right choice for their application.



**Light Duty** These economical wheels and tires are best suited for light loads and intermittent use. If used in more demanding applications, frequency of replacement costs will adversely impact savings.



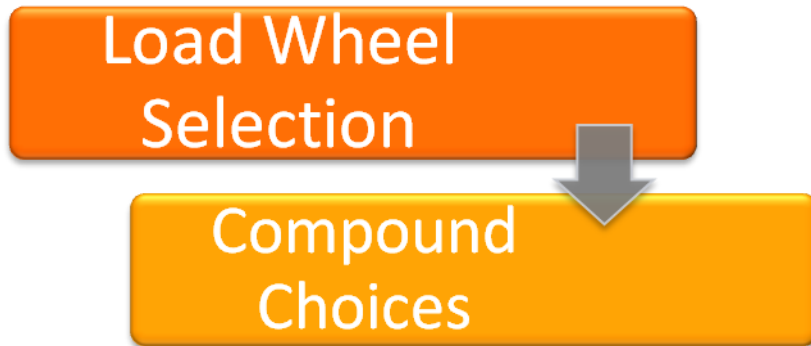
**Mid-Range** The compounds in the 200 Series Mid-Range wheels and tires are designed to provide higher performance than the 100 Series. They are best suited for light loads to medium loads and short to medium runs.



**High Capacity** For the typical demands of most applications, 300 Series High Capacity wheels and tires feature compounds designed for high capacities and long runs.



**Heavy Duty** The most demanding applications will benefit from the compounds formulated for 400 Series Heavy Duty wheels and tires, with maximum performance for maximum capacities and extreme runs.







# Application Selection Guide

## FIND THE RIGHT SOLUTION

### Experience Exceptionally Longer Wheel and Tire Life

Don't compromise performance, productivity and reliability with low-cost replacement parts. Crown's variety of compounds and treads — with four performance levels to choose from — are matched to your application type. Chosen from top manufacturers based on performance standards, Crown's recommended wheels and tires help optimize wheel and tire performance for your specific needs.

#### 3-Step Evaluation Process

##### Usage Analysis

What is the right amount of wheel and tire usage for your application as it relates to your industry?

##### Failure Analysis

What is the cause of your wheel and tire failures (e.g., overloading, heat failure, bond failure, floor debris damage)?

##### Best Value Benchmarking

Have you established a best value solution for your application through benchmarking and tracking?

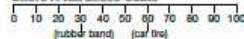
## Wheels

Wheel Series	Compound Number	Shore A Hardness	Application Types				
			Long Runs/ Heavy Loads	Dock Boards/ Expansion Joints (Chucking)	Metal Chips/ Floor Debris (Flat Spotting)	Wet Conditions	Freezer
<b>100 SERIES Light Duty</b>							
These economical 100 Series Light Duty wheel compounds are best suited for light loads and intermittent use.							
	101	93A		○	○	○	○
	102	95A		○	○	○	○
<b>200 SERIES Midrange</b>							
The Mid-Range wheels are designed for light to medium loads and short to medium runs.							
	201	83A	●	●	●	●	●
	204	85A	●	●	●	●	●
	206	87A	●	●	●	●	●
<b>300 SERIES High Capacity</b>							
For the typical demands of most applications, High Capacity wheels feature compounds designed for high capacities and long runs.							
	301	95A	●	●	●	●	●
	302	95A	●	●	●	●	●
	306	95A	●	●	●	○	●
	306	97A	●	●	●	●	●
<b>400 SERIES Heavy Duty</b>							
Heavy Duty wheels are designed for maximum capacities and extreme runs.							
	401	93A	●	●	●		
	402	98A	●				

○ = Good   ● = Better   ● = Best



#### Shore A Hardness Scale



Softer compounds are typically more cut and tear resistant and provide a smoother ride. Harder compounds typically provide improved travel speeds, due to less rolling resistance.

## Tires

Wheel Series	Compound Number	Non-Marking Compound*	Shore A Hardness	Application Types				
				Long Runs/ Heavy Loads	Dock Boards/ Expansion Joints (Chucking)	Metal Chips/ Floor Debris (Flat Spotting)	Wet Conditions	Freezer
<b>100 SERIES Light Duty</b>								
These economical 100 Series Light Duty wheel compounds are best suited for light loads and intermittent use.								
	141	151	91A		○	○	○	○
	142	152	93A		○	○	○	○
<b>200 SERIES Mid-Range</b>								
The Mid-Range wheels are designed for light to medium loads and short to medium runs.								
	241	251	87A	●	●	●	●	●
	242	252	85A	●	●	●	●	●
	243	253	83A	●	●	●	●	●
<b>300 SERIES High Capacity</b>								
For the typical demands of most applications, High Capacity wheels feature compounds designed for high capacities and long runs.								
	341	351	95A	●	●	●	●	●
	342	352	90A	●	●	●	●	●
	343	353	85A	●	●	●	●	●
	348	358	95A	●	●	●	●	●
	349	359	93A	●	●	●	●	●
<b>400 SERIES Heavy Duty</b>								
Heavy Duty wheels are designed for maximum capacities and extreme runs.								
	441	451	98A	●				
	442		93A	●	●	●		
Center Groove				●				
Thick Sipe							●	●
Thin Sipe							●	●
Diamond Groove							●	○
Hole Pattern							●	●

\*All Polyurethane is a non marking.

○ = Good   ● = Better   ● = Best

#### Treads\*\*



\*\*Treads not available in all sizes.



Call your local Crown dealer to help you determine the right load wheels or tires for your application and start minimizing costs and maximizing productivity today.

**CROWN** Wheel Selection Guide  
Color Reference











If you see one of these wheel colors...	If you see one of these wheel colors...	If you see one of these wheel colors...	If you see one of these wheel colors...
			
...then your equivalent compound is in this series.	...then your equivalent compound is in this series.	...then your equivalent compound is in this series.	...then your equivalent compound is in this series.
<b>100</b> SERIES	<b>200</b> SERIES	<b>300</b> SERIES	<b>400</b> SERIES

What is out there?  
Thombert, Superior,  
Millennium,  
Stellana, local  
compounds

Who can name the  
compounds in each  
series?



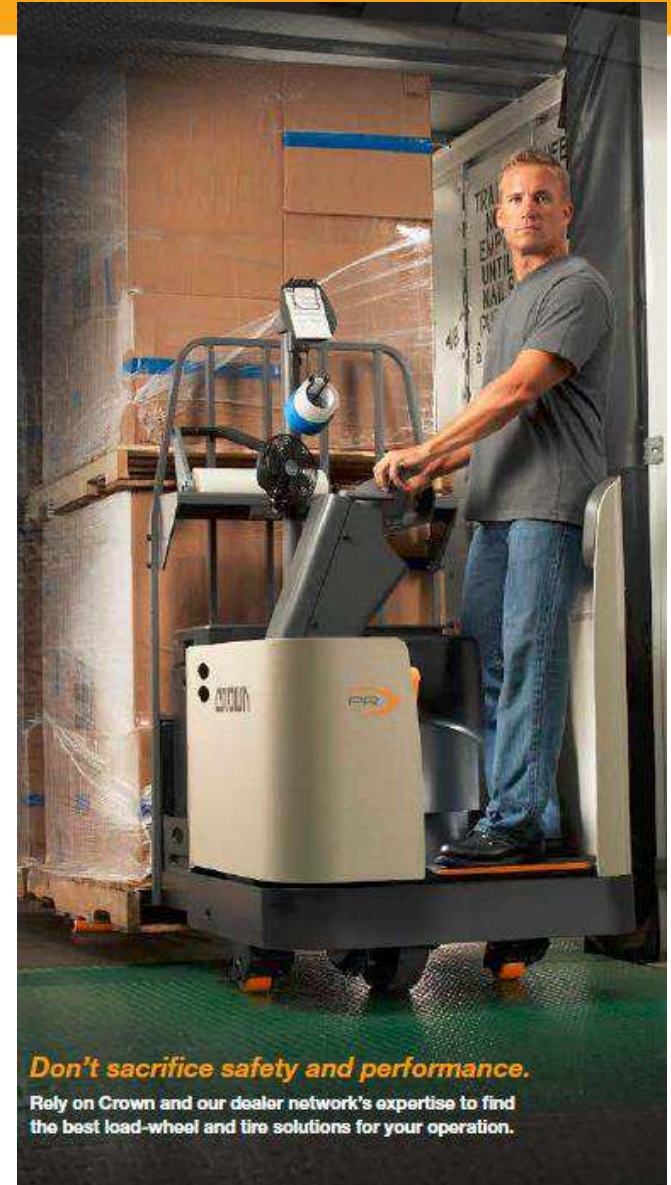
# Tread Profile Selection

<p><b>-02 Center Groove</b></p>	 	<ul style="list-style-type: none"> <li>• Improves overall tire life from higher heat dissipation</li> <li>• Designed for long runs or high temperature applications</li> </ul>
<p><b>-03 Router Sipe</b></p>	 	<ul style="list-style-type: none"> <li>• Highest water dissipation, most effective in wet conditions</li> <li>• Suitable for high standing water</li> <li>• Smoother ride than Diamond Sipe</li> <li>• Lower chunk resistance</li> </ul>
<p><b>-04 Thin Sipe</b></p>	 	<ul style="list-style-type: none"> <li>• Small razor cuts in tire surface</li> <li>• Providing edge effect to cut through water film</li> <li>• Generate higher traction in wet or icy conditions</li> <li>• Improves truck performance and reliability</li> <li>• Lower chunk resistance</li> </ul>
<p><b>-05 Diamond Sipe</b></p>	 	<ul style="list-style-type: none"> <li>• Designed to reduce hydroplaning</li> <li>• Improves traction on wet floors</li> <li>• Suitable for medium standing water</li> <li>• Could post uneven wear issue</li> </ul>
<p><b>-06 Hole Pattern</b></p>	 	<ul style="list-style-type: none"> <li>• Great on damp floors</li> <li>• Resistance to chunking and tearing</li> <li>• Cold storage applications</li> <li>• Produce areas</li> </ul>



# How do we bring this program to market and gain new business?

*Rely on our expertise in the lift truck industry to provide the customer with the best compound for their application.*



**Don't sacrifice safety and performance.**

Rely on Crown and our dealer network's expertise to find the best load-wheel and tire solutions for your operation.

## How do you sell it?

- Know the Crown program and the brochure
- **Understand the customer's application**



## Customer's Application:

- Floor conditions
- Weight of product moving
- Temperature
- Truck utilization
- Housekeeping
- Moisture
- Corrosives



## On The Truck

- Existing Compound
- Bearings
- Grease
- PM procedures
- Inventory

## How do you sell it?

- Know your product offering.
- Understand the customer's application.
- **Bring the customer through the Three-Step Evaluation System.**



### 3-Step Evaluation Process

#### Usage Analysis

What is the right amount of wheel and tire usage for your application as it relates to your industry?

#### Failure Analysis

What is the cause of your wheel and tire failures (e.g., overloading, heat failure, bond failure, floor debris damage)?

#### Best Value Benchmarking

Have you established a best value solution for your application through benchmarking and tracking?



# Three-Step Evaluation System

## 3-Step Evaluation Process

### Usage Analysis

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## **WARNING:**

If you don't use the Three-Step Evaluation System, competitors simply have to beat your price to take the business.

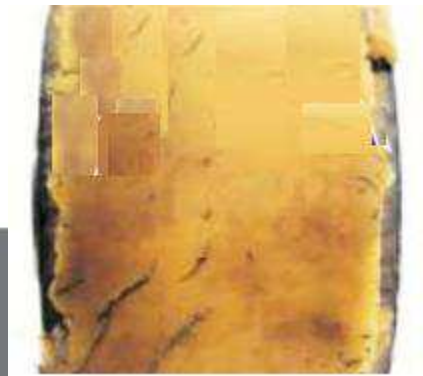
## Step 1: Usage Analysis

- How many wheels, tires, bearings, spacers, grease are being consumed?
- How many days on average does a wheel last?
  - 500 wheels per year
  - 50 Pallet trucks
  - 10 Wheels per truck per year (5 sets per year)
  - $365/10 = 36.5$  days per wheel
  - This is what you need to beat.

## Step 2: Failure Analysis

- **Types of Failure**

- Normal wear
- Debris **HEAT**
- Flat spotting **HEAT**
- Overloading **HEAT**
- Operator abuse or poor floor conditions
- Bond failure or material defects **HEAT**



## Wheel and Tire Failure Group Work

- Distribute the failures (2 per table)
- Pass the worksheet out
- As a team determine the failure type, why, and warranty terms

## Step 2: Failure Analysis – Normal Wear

### 1. Normal wear (non-warrantable)

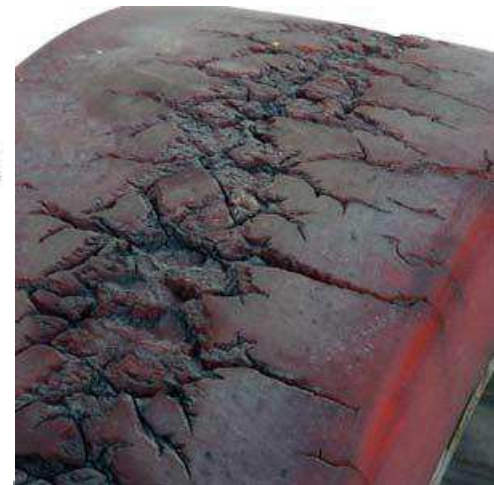
- Fatigue cracks - When under load, tires flex a little as they rotate and over time cause fatigue cracks to develop. Stress Cracks from center out or thin cracking from tread outside to base band. Does not occur immediately and most frequently seen on drive and steer tires in highly demanding applications.
- Coning or tapered wear – The result of cornering/ turning with loads. Coning can contribute to wheel failure due to overloading because coning reduces the load carrying surface area of the wheel.



Drive Tires  
With Fatigue  
Cracks



Caster Wheel With Fatigue Cracks

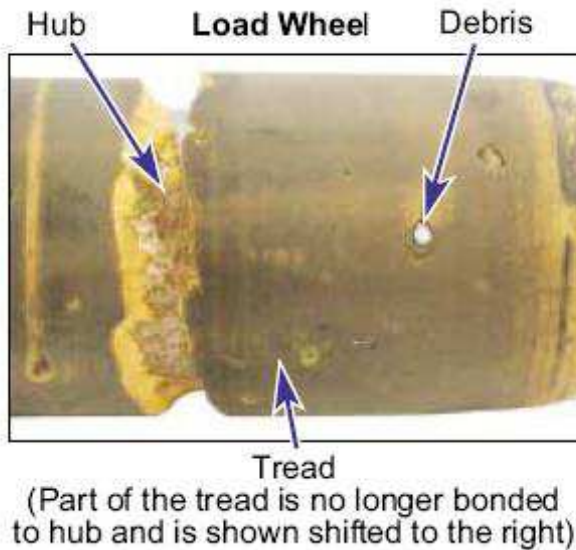




## Step 2: Failure Analysis – Debris

### 2. Debris (non-warrantable)

- Debris on the floor is picked up and embedded in the tread
- Debris can penetrate to the bond line causing tread to separate from hub. Can cause chunk out as well.
- Once the tread starts to separate and even if the debris is removed, the tire or wheel eventually fails.
- Often causes noise, thumping, rough ride



Chunking – torn or damaged from sharp dock plates, protective rails, racking or poor floor conditions.

## Step 2: Failure Analysis – Flat Spotting

### 3. Flat spotting (non-warrantable)

- Abrasion is evident on the flat spot, indicating the tire has been dragged (skid)
- If a load wheel comes in contact with floor debris and can't roll over the debris, the load wheel will "lock" causing the wheel to skid, flat spotting the wheel.
- When braking problems exist more than one flat spot may be present.
- A flat spot caused by polyurethane taking a permanent set will not show any evidence of abrasion.

### Flat spotting (warrantable)

- Although rare, flat spots, particularly on drive tires where no abrasion is apparent, are usually due to a manufacturing defect. If a tire has been driven for a length of time and has "heated up", the tire may flat spot if suddenly left to cool. These flat spots will normally roll-out once the poly has "heated up" again within a few minutes of operation. *If it does not, this may be a sign of a manufacturing defect.* Very little wear is evident as well.



Flat Spot  
(Roughed Area)



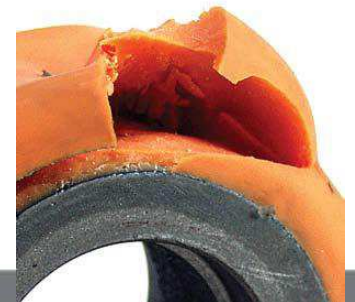
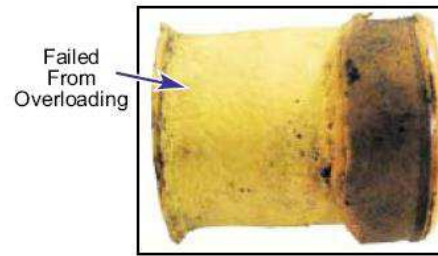
## Step 2: Failure Analysis – Overloading

### 4. Overloading (non-warrantable)

- Overloading is often confused with bond failure because the tread is separated from the hub.
- In overloaded, the critical temperature of the material was exceeded (temperature at which the wheel tread softens and liquefies) and is usually caused by traveling continuously at high speeds with extreme loads.
- Improper bearing maintenance and improper shimming of the load wheel can also cause this condition. Bent forks, bearings and wheels that don't rotate freely on pallet trucks may contribute to heat build-up.
- An overloaded wheel will often have signs of white flaking material (center) and melted poly indicating excessive heat build-up.
- Poly material is still bonded to metal hub, tread may show signs of melting in center, tread is lifted up in one or more sections



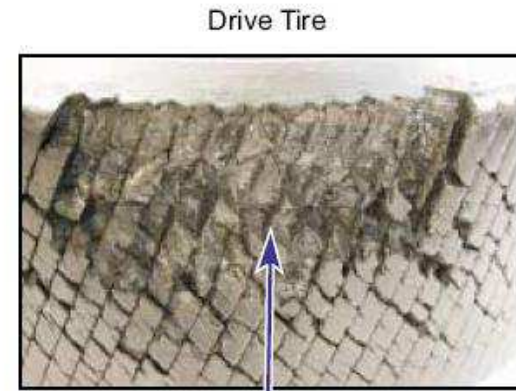
Hysteresis-  
Evidence of  
melted  
material, tread/  
poly could have  
internal bulging  
across face



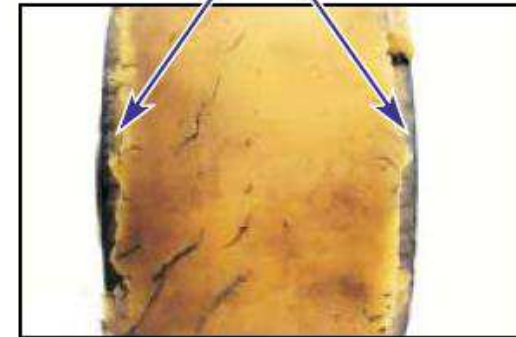
## Step 2: Failure Analysis – Operator Abuse/ Poor Floor Conditions

### 5. Operator abuse or poor floor conditions (non-warrantable)

- A wheel or tire that is missing a portion of tread (chunked) or is visibly deformed indicates operator abuse and/or poor floor conditions and is not warrantable.
- Application issues that may cause this type of failure.
  - Debris
  - Large cracks or holes in the floor
  - Floors with a very rough surface
  - Poor trailer to dock alignment
  - Traveling too fast over dock plates



"Chunked"



Load Wheel



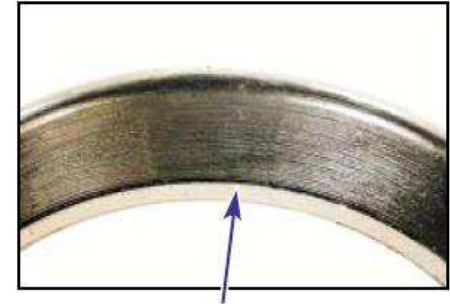
Caused from pallet dragging – signs of grooving on outside diameter, grooves are typically around outside diameter



## Step 2: Failure Analysis - Bond

### 6. Bond failure (warrantable)

- Bond failures show little or no evidence of destroyed polyurethane and may be visible as a hairline separation between tread and adhesive.
- In some cases, the tread may be completely removed or have very little left on the hub.
- **The tire failed in a short time after installation** and there is little wear on the tread. Press on tires typically exhibit localized bond failures.



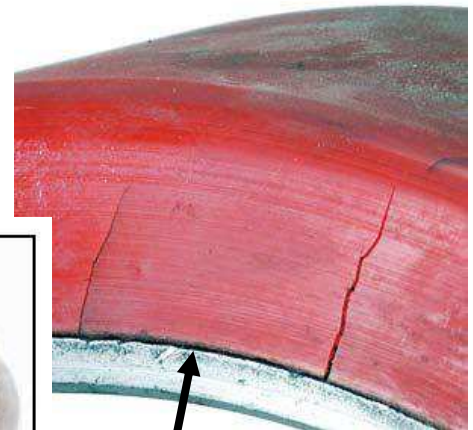
Bond Failure  
(Small Crack is Visible  
Between the Hub and Tread)



–Clean break  
between poly and  
adhesive,  
adhesive showing  
on hub, failure  
can be one spot or  
completely  
around the  
perimeter



Bond Failure  
(Hub has been shifted to show hub  
and tread are completely separated)





# Step 3: Best Value Benchmarking

- Goal is to get customer to the best **value** compound
  - The best value compound provides the desired wheel performance at the best price.
  - Finding the best value compound requires benchmarking the usage by comparing the current compound to other compounds within a series.
- A wheel test can be initiated if you do not want to risk changing over an entire fleet.

### Frequency of Consumption Comparison

Replacement cost of one wheel and four bearings on a typical pallet truck.

Part	Price (list price of 100462)	Repair Labor and Associated Parts (15 min at \$75/hr plus four bearings)	Operator (Downtime 15 min at \$25/hr)	Cost	x Life Cycle (Sets Replaced Per Year)	Total Cost
Crown-Specified Wheel	\$24.08	\$25.27	\$6.25	\$55.60	x 3	<b>\$166.80</b>
Misapplied, Light-Duty Wheel	\$16.63	\$25.27	\$6.25	\$48.15	x 4	<b>\$192.60</b>

**A less expensive wheel or tire that is incorrectly applied may cost you 15 percent more than the Crown-specified selection when it fails or wears out sooner. Crown selects the best solutions available and matches them to each application to maximize savings, safety and performance.**

## Product Reference

### Marketing Information

### Load Wheels: Reducing Costs

For optimum maintenance costs, simply buy the wheels that last the longest.

**It's Worth Testing**  
Load wheel endurance routinely represents a substantial portion (up to 50%) of total equipment maintenance costs.

On average, load wheel price represents only about half the direct cost of wheel replacement. The remaining direct replacement costs are made up of labor, wheel bearings and other incidentals.

**Direct Costs**  
Labor  
Load Wheel  
Bearings & Incidentals

**Direct Costs**  
For example, assume you were able to purchase wheels priced 50% less than the wheels you normally purchase.

Example:  
Original Set of Load Wheels Bearings and Incidentals = \$100  
Labor = \$75  
Total = \$175

1/2 Price Set of Load Wheels Bearings and Incidentals = \$50  
Labor = \$75  
Total = \$125

Savings = \$50 or 28% of Direct Cost

Given with half price wheels, 70% of direct cost remains. **Therefore, half price load wheels must last at least 78% as long or you lose money in direct cost.**

50% of Load Wheel Cost Removed  
70% of Direct Cost Remains

Down time and available ship and maintenance labor time consumed by load wheel repairs due to frequency should also be considered.

Assume the service life for the original set of load wheels is 4 months and the half priced set is 3 months (75% of 4 months).

This is an increase of 20% from downtime and maintenance labor time (4 sets/3 sets = 1.33 or 33%).

**Reducing Costs**  
Using the same math, a wheel that lasts just 20% longer:

- Justifies a 50% greater price.
- Produces 20% less downtime and 20% less labor requirements.

Cheap wheels are labor, if over the longer to lower load wheel costs. The lowest overall maintenance costs come from the longest lasting wheels (and parts).

## How do you sell it?



- Know your product offering.
- Understand the customer's application.
- Bring the customer through the Three-Step Evaluation System.

### 3-Step Evaluation Process

#### Usage Analysis

What is the right amount of wheel and tire usage for your application as it relates to your industry?

#### Failure Analysis

What is the cause of your wheel and tire failures (e.g., overloading, heat failure, bond failure, floor debris damage)?

#### Best Value Benchmarking

Have you established a best value solution for your application through benchmarking and tracking?

- **Understand the customer's profile.**

**PROFILES – Current, Price, Color, Satisfied, Warranty, Abuse Customers**

**What would your strategy be in these situations?**

**Current Customer** - *purchases wheels and tires from you today*

**Strategy:** If customer is pleased and performance is good, don't change a thing.

**Strategy:** If customer is not pleased with performance or price level, try an alternate compound.

**Price Customer** – *“I don't care about the compound, I want a \$16 wheel.”*

**Strategy:** Match their price to the appropriate series and possibly sell them the same or similar product.

## Color Customer - *"I want the red one."*

**Strategy:** Explain that the color of the poly has no bearing on its performance.

**Strategy:** Match their color to the appropriate series and sell them possibly the same or similar product.

## Satisfied Customer – *"I have the best compound."*

**Strategy:** Identify the compound they are using. Try to find out their usage and how they came to the determination that this compound is the best.

**Strategy:** Match their price to the appropriate series and sell them possibly the same or similar product.

**Strategy:** Question the support they get from their current provider. Are they getting usage analysis, failure analysis? Have they benchmarked to find best value?

## **Warranty Customer** - *“My current supplier warranties everything.”*

**Strategy:** Relationship with their current supplier is often strong, so get the facts. What is their current usage? What type of failures are they experiencing? Selection of the best compound for the application will reduce the number of failures and in the end (frequency of consumption) save them money.

## **Abuse Customer** - *“I just tear'em up anyway!”*

**Strategy:** Match their price to the appropriate series and sell them possibly the same or similar product.

**Strategy:** Use failure analysis to identify the true cause for their failures. It may not be floor debris or abuse as they assume and a better compound may make a difference.



## How do you sell it?

- Know your product offering.
- Understand the customer's application.
- Bring the customer through the Three-Step Evaluation System.



### 3-Step Evaluation Process

#### Usage Analysis

What is the right amount of wheel and tire usage for your application as it relates to your industry?

#### Failure Analysis

What is the cause of your wheel and tire failures (e.g., overloading, heat failure, bond failure, floor debris damage)?

#### Best Value Benchmarking

Have you established a best value solution for your application through benchmarking and tracking?

- Understand the customer's profile.
- **Utilize testing.**

## When do you test?

- Not enough usage data from customer or unreliable information.
- Testing Tips
  - Monitor the test continually.
  - Collect the data yourself or have a technician from your dealership collect it.
  - Save failed product for analysis.
  - This is not easy!

**Product Reference**  
Marketing Information

**Load Wheels: Reducing Costs**

For optimum performance, load wheels must be chosen that suit the application.

**Our Worth Testing**  
Load wheel maintenance costs represent a substantial portion (25-30%) of total required maintenance costs.

On average, load wheel maintenance costs only about half the cost of an alternative. The remaining 50% represents the cost of labor, wheel storage and other expenses.

**Direct Costs**  
Storage & Labor Expenses (15% of total cost)

**Wheel Costs**  
The wheels, when you save 50% to reduce wheel maintenance costs, you still have the other 50% normally purchase.

**Example:**  
Original cost of Load Wheels: \$1000  
Storage and Labor: \$150  
Total = \$1150

**Assure the available life for the wheel and other vehicles in repairs and the full price will be recovered (25% of 4 months).**

**The 10% in excess of 25% may be used for maintenance (labor time or other) with a 1.5% or 25%.**

**Additional Costs**  
• 25% of wheel cost  
• 15% of labor and storage  
• 25% of wheel cost  
• 15% of labor and storage  
• 25% of wheel cost  
• 15% of labor and storage

**Overhaul and available shops and maintenance labor time required to test and maintain the wheel and other vehicles in repairs and the full price will be recovered (25% of 4 months).**

**The value spent on testing an additional set of load wheels and their maintenance costs, compared to the original number of required employees.**

**1. Compare**  
Compare the two trucks by the type of job they perform. There are three factors:  
• Duration, after four days, equal the surface life.  
• Transporting jobs.  
• Load, 10000, 10000 or on the floor.

**2. Select**  
Each of these wheels should be tested separately. The vehicles will provide different results and require different test methods.

**3. Install**  
The most of wheel tested, the most accurate the results. Test it on the test bed of load wheels.

**4. Record**  
You need to record the results of the test. The results of the test will be used to compare the two trucks.

**5. Select & Store**  
After all the test results, you will have a clear idea of which wheel is the best for the test when for each application.

**Test All Replacement Parts**  
You need to test all replacement parts. The results of the test will be used to compare the two trucks.

**Test wheels parts costs make up 10% of the total wheel costs. The 10% of the total wheel costs is the 10% of the total wheel costs. The 10% of the total wheel costs is the 10% of the total wheel costs.**

**Product Reference**  
Marketing Information

**Load Wheels: Testing**

Accurate test results are necessary for choosing a single load wheel or a set of load wheels. The test results will be used to compare the two trucks.

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**Marketing Information** Product Reference 7.2.3

**Test Data for Single Load Wheels**

Customer: \_\_\_\_\_  
Application: \_\_\_\_\_  
Comments: \_\_\_\_\_

Location	Control	Part	Installation	Inspection	Inspection	Inspection	Fail	Usage
Unit No.	Model No.	Serial No.	Hours	Date	Time	Date	Date	Hours
1								
2								
3								
4								
5								
6								
7								
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9								
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## *In Review ... How do you sell it?*

- Know your product offering.
- Understand the customer's application.
- Bring the customer through the Three-Step Evaluation System.

### 3-Step Evaluation Process

#### Usage Analysis

What is the right amount of wheel and tire usage for your application as it relates to your industry?

#### Failure Analysis

What is the cause of your wheel and tire failures (e.g., overloading, heat failure, bond failure, floor debris damage)?

#### Best Value Benchmarking

Have you established a best value solution for your application through benchmarking and tracking?

- Understand the customer's profile.
- Utilize testing.

[Video Clip – click here](#)

**Replace a set of Load Wheels in 2-3 minutes anywhere in your facility.**

- Increase truck uptime
- Reduce maintenance labor expense
- No jack required



## Reach Truck Quick Change Load Wheel

- 115033-xxx-66
- 115032-xxx-66
- 125069-xxx-66
- 125070-xxx-66



**Get A Grip In Damp Conditions.**

**Tires chunking?  
Try hole pattern tires today.**

Experience improved traction, whether you're working on damp floors, in cold storage facilities or in produce areas where moisture is an issue. The gripping technology in the hole pattern tires provides better traction and braking, increased productivity, and improved safety while their resistance to chunking and tearing typically mean fewer repairs and reduced downtime.

- Improved traction on damp floors
- Resistant to chunking and tearing
- Good for cold storage applications
- Performs well in produce areas

See Section 13 of the One Source labeling for all sizes available.

Contact your local Crown dealer to learn more.

[crown.com](http://crown.com) SP10027 00-15



## Hole Tires xxxxxx-xxx-06

- Great on damp floors
- Resistance to chunking and tearing
- Cold storage applications
- Produce areas



# Items at Crown - Continued



## Triple Load Wheels Your Flat Spotting Solution

Flat spots can cause your wheels to wear out prematurely. Crown's triple load wheels include an independent wheel rotation that reduces coning and increases load wheel life.



See section 11 of the One Source catalog for all options.

- Not ideal for locations with shrink wrap on the floors
- Wheel options for Crown and Raymond pallet trucks

-Crown Part Number 154840-xxx  
-Raymond Part Number 310250-xxx

Contact your local Crown dealer to learn more.



crown.com

SP19036 10-18

## Sweeper Scrubber Tires



## Pallet Jack Wheel Kits Quick, Easy Replacements For Your Mixed Fleet

At Crown, we understand that wheels are just one of many critical forklift components that impact performance, efficiency and safety. Changing your wheels can be a hassle, especially if you don't have all the parts you need. With your convenience in mind, our pre-packaged wheel kits for manual and electric vehicles are available for multiple brands and contain all the parts you need for quick assembly and minimal downtime.

Utilizing Crown pre-packaged wheel kits has its benefits:

- Everything you need in one kit
- Bearings assembled in wheels/bollies
- Kits available for both load wheels and load/steer wheels
- Support for multiple brands including Hyster, Raymond, Toyota, Yale, Big Joe and Mighty Lift



See section 10 of the One Source catalog to help you determine the right wheel kit for your application.

Contact your local Crown dealer to learn more.

crown.com



Now available through your local Crown lift truck dealer. Pre-Assembled Wheels

## 3 Ways to Save with Pre-Assembled Wheels from Crown.

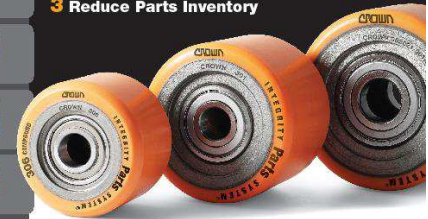
100 SERIES  
Light-Duty

200 SERIES  
Midrange

300 SERIES  
High Capacity

400 SERIES  
Heavy-Duty

- 1 Lower Maintenance Labor Cost
- 2 Minimize Operator Downtime
- 3 Reduce Parts Inventory



Ready to install, pre-assembled wheels are available now, by adding **-88** to your next wheel order. Specifications and availability per Crown truck model listed on reverse side.



## PTH 50 Wheel Options

Let Crown match you with the perfect wheel to help you get the most out of your PTH hand pallet jack.

Our wheels come in a variety of materials to ensure maximum performance and satisfaction in your specific application. Whether your focus is on durability, traction, steering effort, noise or even a combination of these, Crown has the wheel option to satisfy your requirements. Why settle for an off-the-shelf solution when Crown can provide a hand pallet jack wheel that is perfectly matched to your application?

	Polyurethane	Nylon	Rubber
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Best	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not Recommended	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Part # 010270	Part # 010271	Part # 010272
Noise	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Vibration	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traction	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Load	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of Turning	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Debris	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cut / Tear	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wear Resistance	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Indoor Use	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Outdoor Use	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-Marking	YES	YES	NO
PTH Hardness	90A	70-80D	62-65A

Talk to your Crown dealer about the wheel options for your PTH hand pallet jack today or visit [crown.com](http://crown.com) for more information.

SP19034 03-16

[www.crown.com](http://www.crown.com)



# Rubber Tire Offering



Crown also gives the customer the choice of the best rubber

compound the market has to offer from Press-Ons, Pneumatics, Resilient, to Sweeper Scrubber compounds.

Trelleborg/ Monarch Mono-Cushion, Mono-Grip, Long Distance NM, M2, T-900

Solideal Unitrac Max, Magnum, ERP, Unibasix, ECR, Extra Deep

Roadrunner Express, Fiberglass Impregnated

Superior Scrubber Compound

Millennium Fiberglass Impregnated, Walnut

Continental MH20, PT18, SC20 Mileage+, SC20 Energy+

**one source**  
LIFT TRUCK PARTS

### Rubber Tires For your mixed Fleet

At Crown, our mission is to provide you with the utmost quality and safety in our products. Our rubber tires are available in multiple sizes, profiles, and tread patterns to ensure your satisfaction and efficiency regardless of the build brand. Made with quality materials, these tires are designed for a variety of surfaces, maximizing safety and efficiency while meeting the demand of rugged everyday use.

- Ranging from Press on Rubber, Solid Resilient, and Industrial Pneumatic tires

**Press On Tires** - One layer or constructed with a natural rubber compound adhered to a metal band

**Resilient** - Multi-layer construction

**Pneumatic** - Multi-layer compound for strength and heat resistance

- Tires can come in Marking or Non-Marking

**Marking** - Most widely used for life on the market - black color

**Non-Marking** - Clean-running, leaving no tire marks behind - most light grey or dark grey in color

- Tread Designs

**Smooth** - For dry surfaces when traction is not a factor

**Traction** - Used when extra traction is required

**one source**  
LIFT TRUCK PARTS

### Maximize Value. Minimize Downtime.

Help ensure your tires are never taken out of service early with Pit Stop Line solid resilient tires.

The Pit Stop Line tires provide maximum value by ensuring the replacement occurs at the right time for your operation, eliminating unplanned downtime. When the tread wears down, an orange stripe becomes visible, indicating approximately 100 hours of tire life remaining. This allows ample time to plan a replacement and plan a time change when most convenient, without compromising performance, safety or productivity.

Now Tire

100 Hours  
The Life Remaining

## Lets test your knowledge

- Questions you need to ask yourself?
  - ✓ What is the comparable Crown series?
  - ✓ What is the application?
  - ✓ What kind of customer is this?
  - ✓ What are they currently paying for the wheel?
  - ✓ What are your options when quoting?



# Crown's Wheel and Tire Program

It's all about  
Total Cost  
of Ownership.

**Wheels & Tires**

**Why Choose Crown's Wheels and Tires?**

Wheels and tires are the most frequently serviced items on a lift truck. Maximize performance, uptime and cost immediately by fitting your forklifts with the correct load wheels and tires for your specific application.

**Choose Crown's wheels and tires and you'll experience:**

- **Exceptionally longer life** giving you the maximum uptime available
- **More uptime & reduced maintenance costs**, due to our proven, reliable performance
- **Lower labor costs** driven by reliability, durability, fit and support

The key to reducing the cost of wheel and tire maintenance isn't buying cheaper replacements... it's identifying the best solution for your particular material handling operation. Contact your Crown Dealer to identify the best combination of compound, hardness and load capacity to maximize traction and performance in your application.

Always the highest level of safety, performance and savings on lift truck wheels and tires. Crown's choice of compounds and tread - chosen from top manufacturers based on performance testing... as required by your specific application.

**More Uptime. Minimal Service. It's That Simple.**

**Buy Wheels & Tires that Last**

Item	Crown-Selected Wheel	Unselected Light-Duty Wheel
Wheel	\$1,000	\$1,000
Repair Labor & Associated Parts	\$600	\$1,200
Operational Downtime	\$600	\$1,200
Cost	\$1,600	\$3,400
<b>100% Uptime lost replacement cost</b>	\$1,600	\$1,800
<b>Total Cost</b>	\$1,600	\$5,200

\* A less expensive wheel or tire that is applied incorrectly may cost 15% more than the Crown-specified solution, since fit and load capacity are critical to wheel life.

**Do you know which Series you are using?**

Wheel Selection Guide - Color Reference

100 Series	200 Series	300 Series	400 Series
For your application, compare fit to the series.	For your application, compare fit to the series.	For your application, compare fit to the series.	For your application, compare fit to the series.

**Crown**  
Crown Equipment Corporation  
One Crown Drive, Middleburg Heights, OH 44130  
Tel: 419-922-2200  
www.crown.com