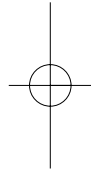
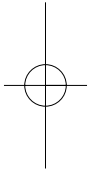
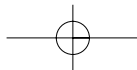


CROWN



Parts Comparison Guide





How do you find the best deal on parts?

The lowest priced part isn't always the best deal. The value is found in reliability and performance.

You need to consider how long the part will last and what kind of performance you get. If a part lasts two to three times longer, it's a great bargain even if it costs a little more. Better part performance also pays because it improves lift truck reliability and operator productivity. Also consider what it costs when your lift truck is out of service. When the operator isn't working, that's a significant cost. The cost of service related labor is also significant. The more often you replace a part, the higher your labor costs will be.

All of these factors add up to your total cost of ownership.

With the Crown Integrity Parts System, you're assured of getting the highest quality parts to keep your Crown lift truck performing at the highest level and achieving **the lowest total cost of ownership. Guaranteed.**

Uncover the difference.

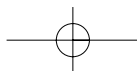


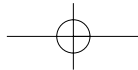
Many parts look alike. **But compare them inside and out and you'll easily see the differences**

between Crown parts and all others. Common problems with look-alike parts include:

- Poor fit
- Poor safety
- Obsolete designs
- Potential damage
- Poor performance

In this parts comparison guide we've cited examples of each, but you're likely to find more than one of these problems in the same part. Compare the differences and you'll find the greatest cost-savings is found in Crown Integrity Parts.™





Don't Accept...

Poor Fit

Wrong dimensions,
incorrect interfaces,
poor quality finishes

A poor fit is a common problem with look-alike parts. Typically, these parts take longer to install. Once installed, problems multiply due to a poor fit, misalignment or structural weaknesses that cause the part to fail much sooner. These parts also cost you more due to the domino effect; a poor fit can cause related parts to wear out sooner and compromise performance. Two notable examples are look-alike parts for the Crown pallet truck yoke and the RR 5000 Series drive unit.

Crown
089341



Look-alike



Poor fit problems with look-alike pallet truck yokes:

- All surfaces are painted, which increases risks of paint chips compromising internal mechanisms
- Mounting surfaces and grip bores not machined:
 - Causes poor mate between handle, yoke, pod and grips
 - Creates misalignment
 - Allows hardware to loosen over time

In addition to these risks, look-alike yokes require more service labor for installation creating additional downtime.

Crown
129474



Look-alike

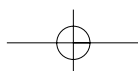


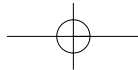
Drive unit fit to the under-carriage is critical to achieve proper motor and drive unit alignment. With Crown's exclusive drive unit installation kit, you can eliminate all of the costly, labor-intensive problems typical of rebuilt drive units.

Crown includes all the critical components and instructions necessary to simplify shimming and ensure proper drive unit mounting to the undercarriage. That means longer performance and a lower overall cost.

Poor fit problems with look-alike rebuilt drive units:

- Look-alikes do not come with the critical components to ensure proper fit
- Poor fit with look-alike drive units can:
 - Lead to traction motor armature or field damage
 - Create premature wear on motor-drive, end-head
 - Cause damage to drive unit upper bearings and input shaft
- Look-alikes do not include the latest updates to ensure reliability





Don't Accept...

Poor Safety

Unreliable operation causes one part to compromise another

Look-alike parts often compromise safety because the manufacturers lack the understanding of how their parts interface with the entire lift truck system. Look-alike parts manufacturers also lack the application expertise required to understand how the part will perform in real-world tasks. Since they try to compete on price, they often cut corners during manufacturing. This only transfers the cost to you by compromising safety, performance, productivity and reliability.

Crown
115269/270



Look-alike



Problems with look-alike PE/PW Series control handles:

- Dimensional problems complicate installation, requiring more labor
- Wall thickness is considerably over specification, reducing sufficient clearance for wire harness routing
- Weight is 30 percent heavier than OEM specifications which can compromise brake performance due to handle weight overpowering return spring pressure
- Handle is supplied without bushings causing a very sloppy fit

Crown
115675



Look-alike



Problems with look-alike hand grips:

- Grip coating fails to stand up to conditions in a number of environments
- Oil or chemical contact causes grip to swell and stick
- Poor fit of grip to control handle can compromise smooth operation

Crown
109597/103695

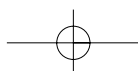


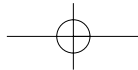
Look-alike



Reliability problems with look-alike brake parts:

- Incorrect lining material may cause adverse effects:
 - Excessive lining or drum wear
 - Reduced braking force due to fading
 - Adhesive not compatible with application demands
 - Inconsistent braking





Don't Accept...

Obsolete Designs

Out-dated, missing latest performance improvements

Look-alike parts suppliers often lag far behind Crown updates. Crown continually updates our lift truck technologies, components and systems to enhance the durability and performance of Crown lift trucks. The only way to ensure that you are receiving Crown parts with the latest updates and part improvements is to purchase them through your authorized local Crown dealer.

Crown

115935



Look-alike



With pallet truck risers among the most heavily stressed parts, you'll easily see the cost benefits with the durable Crown design.

Obsolete design problems with look-alike pallet truck risers:

- Inferior bushings shorten part life:
 - Hard steel causes excessive rotational friction, which weakens roll pin; roll pin failure causes expensive fork bore damage
 - No teflon coating or molybdenum disulfide prelubrication to reduce rotational friction
 - Soft brass bushings wear too quickly, resulting in short bushing life
- Bushing grease ports not aligned with high pressure wear points
- Shaft lacks treatments to enhance surface hardness and natural lubricity
- Grease groove around shaft weakens structure and shortens life

Crown

080194



Look-alike



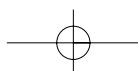
Obsolete design problems with look-alike roller entry brackets:

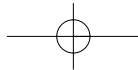
- Bracket design was replaced by Crown in 1993:
 - Look-alike is not an updated design
 - Look-alike does not include rollers and shafts
 - Look-alike does not provide enhancements for superior component life



Obsolete design problems on look-alike remanufactured electronic components also cost you more over time. Look-alikes:

- Do not update to current revision, hardware and software
- Do not use OEM to remanufacture components
- Do not perform full component testing to assure highest reliability
- May not meet UL standards
- Reuse failed cores multiple times (Crown only remanufactures a core once)
- Do not track root failures for product improvements





Don't Accept...

Potential Damage

One part can damage other system components

As a lift truck manufacturer, Crown is committed to the overall performance of Crown lift trucks. That's why we focus on a system design for all of our parts. Look-alike parts suppliers attempt to copy Crown parts. They don't have the capabilities to design, manufacture and test their parts for the entire lift truck system. As a result, their parts frequently compromise lift truck performance and increase the possibility of damage to other parts and related systems. Even a small, inexpensive part from a look-alike parts supplier can have far-reaching effects that may compromise the performance and reliability of your Crown lift truck.

Crown
084343

Look-alike



Poor design problems with look-alike lift solenoids:

- Aluminum washer provides a poor quality electrical contact (as opposed to a copper washer used by Crown)
- Lighter duty return spring can cause sticking and arcing
- Poor quality internal components, (e.g., insulator and plunger) compromise performance

Consequences:

- Shorter lift solenoid life, increasing future part and labor expenses and downtime
- Lift solenoids that stick, contribute to overheating/failure of motors

Crown
074668-001

Look-alike



Poor design problems with look-alike mast column rollers:

- Do not match OEM radius and established mast wear patterns
- Use low-quality grease not suited for low temperatures

Consequences:

- Excessive wear as rollers reshape mast channel
- Compromised durability and performance of mast assembly
- Excessive wear and premature roller failure due to poor lubrication
- Poor fit requires re-shimming and complete mast disassembly
- Added expenses for downtime, labor expense, mast rails and other components

Crown
100730

Look-alike

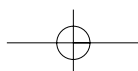


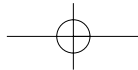
Poor design problems with look-alike lift motor brushes:

- Brushes and commutator are a matched set
 - Substitutions create arcing and consequential wear
- Motor performance compromised by inferior grade, poor quality brushes

Consequences:

- Increases motor temperature and shortens life
- Arcing decreases commutator life
 - Requires (expensive) new/rebuilt armature to repair





Don't Accept...

Poor Performance

Parts compromise lift truck performance levels

Superior performance and a low total cost of ownership are two vital reasons for selecting Crown lift trucks. Many look-alike parts hurt the performance of your Crown lift truck and cost you more over time. That's why it pays to keep your lift truck 100 percent Crown.

Crown
020260-001



Look-alike



Advantages of Crown reNEWed motors:

- reNEWed with New Crown Integrity Parts
- Dynamometer load tested
- Built to meet new motor balance specifications
- Most reNEWed motors are equipped with a new armature
- Guaranteed performance to match in dual drive applications
- Three times longer life than look-alike remanufactured motors

Poor performance problems with look-alike remanufactured motors due to:

- Worn components frequently reused
- Seven national rebuilders failed to pass Crown's dynamometer load test and balance specs
- Faulty armatures often reconditioned
- No insulating resin used in assemblies
- Inability to remanufacture to Crown's specifications

Crown
129244-001



Look-alike



Advantages of Crown electronic horns:

- No wearable parts (contacts eliminated)
- Sealed for long life (protected from dust, moisture, contaminants)
- Fits 24V to 48V lift trucks
- Features traditional horn sound (not back-up alarm sound)

Poor performance problems with look-alike electro/mechanical horns:

- Contacts wear out quickly and fail (1/3 life of electronic horns)
- Not sealed, susceptible to contamination
- Will not stand up to industrial environment

Crown
077656



Look-alike

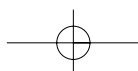


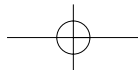
Advantages of Crown switches (3RQ1):

- Designed for DC switching
- Quality tip material used for longer life
- 80 percent more air gap between contact tips to better extinguish arcing
- 55 percent greater spring pressure to prevent sticking

Poor performance problems with look-alike switches (2RQ1):

- Same manufacturer as Crown but the wrong model number switch
- Designed primarily for AC circuits
- More likely to stick and experience contact welding





Accept only Crown Integrity Parts...

**that's the only way to guarantee
that your Crown lift truck will
continue to deliver the same
performance, reliability and safety
as the day it was delivered.
After all, the lift truck
purchase wasn't made
on price alone.**

Q+A

Q How can I save money by spending a little more on higher quality parts?

A The key is how often you'll have to replace the part, which equals your frequency of consumption. If a part lasts two to three times longer, it's a great bargain even if it costs a little more. You'll also save the labor expenses to make the repairs and lost productivity while the lift truck is down. That adds up to significant savings.

Q What can I do to lower my total cost of ownership?

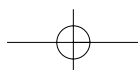
A Your best place to start is "Top Ten" reporting. Track your part failures and make a list of your top ten high-usage parts. This will pinpoint your potential problem areas. It may also tell you that the part is being serviced incorrectly or that a problem has not been properly diagnosed.

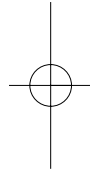
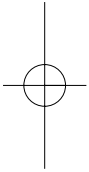
The "Top Ten" report can also be organized and reviewed by parts generating the greatest expense. This allows you to identify areas that have the most potential for parts savings.

The "Top Ten" analysis drives attention to finding the parts that deliver the highest level of reliability and reduce total cost of ownership.

Q How can I tell if an aftermarket part is the same as a Crown part?

A You often see differences between an aftermarket part and a Crown part when you compare them side by side. But the difference goes much deeper. We design and build up to 85 percent of the parts that go into a Crown lift truck. That's the only way we can assure that Crown lift trucks deliver unsurpassed uptime, productivity and performance. We make no compromises, even on the inside. And it's proven by years of analysis, testing and countless customer applications.





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