CASTER CONCEPTS

Beyond Standard.

# MAINTENANCE MANUAL

2023

## CASTER MAINTENANCE & CARE

WWW.CASTERCONCEPTS.COM

VERSION: 17


As we approach 32 years in business it is amazing to me how much this business has changed since 1987. With that said, it is also amazing to me how many things have not changed during that same period of time.

Let me share with you what has not changed first of all…

- Caster Concepts is a domestic manufacturer of industrial casters and wheels, always was, always will be.
- Domestic content of US made components in all of our products exceeds 98%.
- We started as a US manufacturer and are committed to US manufacturing.
- 80% of our supplier base is in a 60 mile radius of Albion, MI. We are proud to support US manufacturing.
- 80% of our work force lives within a 15 mile radius of our location.
- Caster Concepts has a highly skilled engineering team.
- Our strength is to design product for difficult applications, while providing a great standard product line.
- What the customer needs is the most important deliverable.
- You bought our products the first time because you trusted Caster Concepts and you continue to buy today for the same reason—TRUST. When failure is not an option.

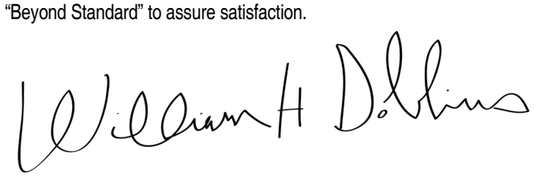
Now let me share with you what is new…

- We manufacture in the most modern facility in a very competitive market.
- We have the most sophisticated manufacturing equipment in the industry.
- We manufacture all our components (except hardware) internally, allowing control of lead times.
- Our manufacturing process is controlled by our ISO 9001:2015 certification.
- Laser cutting and forming have essentially replaced stampings.
- Internal polyurethane hot casting capabilities give us the highest quality product in a predictable lead time.
- We are the only domestic heavy-duty caster manufacturer that has its own polyurethane operation.
- Our people are our great asset.

I could go on and I will trust you get the point…

The culture that Caster Concepts was built on 30 years ago is stronger today than it has ever been. It was the culture that was defined by my father Richard H. Dobbins in 1987 and it provides us with a moral compass today. What a great foundation.

In the meantime, we have invested significantly in technology for the business and it is my belief that we are the most sophisticated caster and wheel manufacturer in the US. We can design and manufacture faster than other businesses can find it on the shelf and box it. Caster Concepts is driven by continuous improvement and always developing processes to improve. We are a unique business that has no peer. I can say that because there is no other competitor that can do what we can do in the time frame we can do it. There is no reason to say we are working to be the best because Caster Concepts, Inc. is in a class of its own. We have the people to deliver on the "customer promise" 100% of the time and we go "Beyond Standard" to assure satisfaction.



William Dobbins, President & CEO
517-629-8838
bdobbins@casterconcepts.com



# TABLE OF CONTENTS

# GENERAL USAGE AND **SAFETY**

**INTRODUCTION**

This manual is meant to give the reader a comprehensive overview of general caster maintenance. Using the guidelines in this manual will help ensure the longevity of your Caster Concepts product. This manual will briefly describe how to inspect a caster in all aspects. It will also give the reader an understanding of what to do after a caster has been checked. Please read this manual carefully and integrate its contents into your regular maintenance schedule.

Caster Concepts is not responsible for damages to product caused by misuse or any of the factors found in the general usage and safety section of this manual. Please remember that this manual is only a guideline for basic maintenance and will not cover advanced or specialized applications.

**SAFETY**

Safety is the most important factor when using your casters. This section will highlight some important guidelines about caster usage and safety. Be mindful that each caster has a design envelope that must not be exceeded or safety of the user and the associated product may be compromised.

# BASIC **GUIDELINES**

- Never side load casters, this will compromise their strength and possibly cause damage
- Never drop or impact the load on equipment being held by casters, this will cause damage
- Do not exceed the products intended speed rating, this will compromise tread life and cause failures
- Always perform regularly scheduled maintenance
- Never load the casters beyond recommended load ratings

Always take proper care, and perform the correct maintenance in order to insure the longevity of your Caster Concepts product. The following sections will set guidelines and procedures for inspecting and maintaining your equipment.



# GENERAL **INSPECTIONS**

This section will discuss general techniques and practices used to periodically inspect your casters. Inspections ensure that your product is still in proper working order and is safe to use. It is recommended at a minimum that a yearly inspection be done for the following sub-sections.

**RECOMMENDED:**

Once a year (duration between mechanical inspections)

**BRAKES**

There are several types of brakes offered on Caster Concepts products. All of these brakes will use the same inspection procedure. If there are multiple casters with brakes on a single piece of equipment, the procedure below must be done for each caster.

1. Disengage all caster brakes on equipment
2. Move the equipment to make note of the rollability
3. Engage a brake on a caster
4. Try to move the cart or equipment the caster is attached to
5. Repeat steps one, three, and four until all caster brakes are checked

**WARNING:**

If any of the caster brakes do not increase the moving resistance or completely stop movement of the equipment, replace the components or the caster immediately. Brakes are not designed to slow a moving wheel, they keep a wheel from moving after stopped.

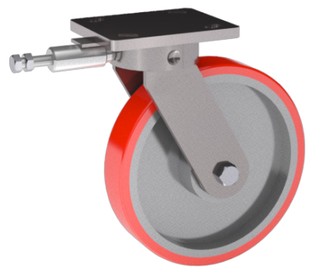
CONTINUED

# GENERAL
# INSPECTIONS

**SWIVEL LOCKS**

There are different types of swivel locks that are used on Caster Concepts products. These too need to be tested during the regular scheduled maintenance. If there are multiple casters with swivel locks on a single piece of equipment, the procedure below must be done for each caster.

1. Disengage all caster swivel locks on equipment
2. Move the equipment to ensure all swivel locks disengage properly
3. Engage a swivel lock on a caster
4. Try to move the equipment the caster is attached to, they should not swivel
5. Disengage the swivel lock
6. Repeat steps three, four, and five until all caster swivel locks are checked



**WARNING:**

If any swivel locks do not stop the caster from swiveling, then immediately replace the components inside the lock or the entire caster if it is welded on.

**AXLES AND FASTENERS**

All casters use fasteners either as an axle or to attach them to equipment. Regardless of what job the hardware is performing it must be checked periodically. Below is a list of checks that need to be performed during a general inspection.

- **CHECK IF ALL FASTENERS ARE TIGHT**
  Tighten any that are loose
- **CHECK IF BOLTS ARE STRAIGHT**
  Replace any that are bent
- **CHECK IF THREADS ARE USABLE**
  Replace any with stripped threads
- **CHECK THAT ALL LOCK NUTS STILL LOCK**
  Replace any with missing or severely damaged inserts
- **CHECK THAT ROLL PINS ARE IN CASTLE NUTS**
  Replace any that are sheared or if missing insert a new roll pin

**WARNING:**

Replace all lock nuts with new lock nuts that have been completely removed

CONTINUED



# GENERAL
# INSPECTIONS

**WELDS**

It is imperative that all welds be checked periodically along with the general inspection. As a minimum, visually inspect all of the welds on each caster. Broken welds cannot sufficiently hold specified loads.

**WARNING:**

If any welds are broken the entire caster should be replaced immediately.

**BENT AND DEFORMED PARTS**

During a general inspection also make sure to check the caster for disfigured parts. Casters become deformed from side loading and shock loading. These two loading situations could bend the legs on the caster, along with the fasteners that hold the caster together. Swivel sections can pull out if high enough forces occur.

**WARNING:**

If any caster components are disfigured, replace them immediately. Caster components that are damaged are not safe to hold specified loads.

**SWIVEL SECTIONS**

A healthy swivel section is a crucial component to a properly working caster. Be mindful that there are different types of swivel sections and these are general maintenance guidelines. During the regular maintenance cycle, be sure to inspect the swivel section for wear. To ensure the swivel section is working properly, follow these steps below.

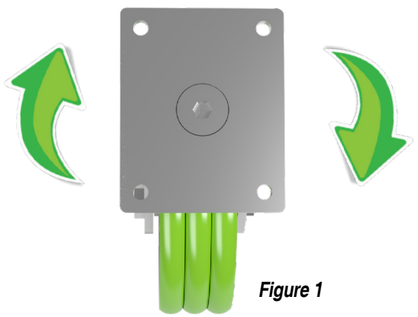


*Figure 1*

1. Elevate the caster so it is free from the ground(if the equipment attached to the casters can be lifted off the ground, checking can be performed faster, especially if there are multiple casters)
2. Rotate the casters swivel section as seen in Figure 1
3. Repeat step 2 until all casters have been checked

**CONSIDERATIONS FOR REPLACEMENT**

- Swivels sections sometimes take high impact and side loads. This may result in a deformed swivel section
- Swivel sections that generate knocking or grinding while turning them
- Swivel sections that are bound up and do not turn
- Swivel sections that are loose, need to be tightened, or the caster needs to be replaced

CONTINUED

# GENERAL
# INSPECTIONS

**WHEEL BEARINGS**

It is important to check the wheel bearings on the caster during regular up keep for wear. Be mindful that there are different variations of wheel bearings, these are just general guidelines. In order to insure that the wheel bearings are working properly, follow these steps below.

1. Elevate the caster so it is free from the ground(if the equipment attached to the casters can be lifted off the ground, checking can be performed faster, especially if there are multiple casters)
2. Rotate the wheel on the caster as shown in Figure 2
3. Repeat step 2 until all casters have been checked

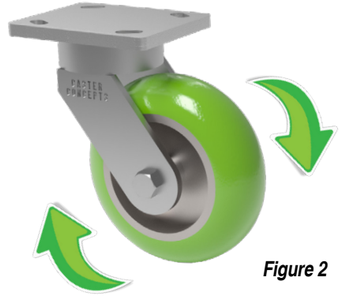


***Figure 2***

**CONSIDERATIONS FOR REPLACEMENT**

- If the wheel bearing generates knocking or grinding during rotation
- If the wheel does not spin or there is an abnormal amount of resistance
- If the wheel does not spin freely, check for foreign material caught in between the leg and the wheel

**LUBRICATION**

This section is only a rudimentary set of guidelines for lubrication, it is not meant to encompass all applications. There are many factors that go into determining when a caster should be lubricated. A caster can undergo extremes in load, duration of runtime, speed, as well as variations in temperature and environment. It is essential that all products with grease fittings be lubricated periodically. The greasing period stated below is referring to casters at catalog load ratings, walking speeds, and intermittent use combined.

**RECOMMENDED:**

**Grease Type:** Mystic LT200 Low Temp

Mystic LT200 Low Temp grease comes standard in all Caster Concepts products unless otherwise specified. Below are links to the standard grease specification sheets.

**Spec Sheets**
http://www.docs.citgo.com/msds_pi/591096.pdf

**MSDS**
http://www.docs.citgo.com/msds_pi/277917.pdf

For questions regarding specific applications such as hi-temp, extreme hi-temp, and food grade greases, please contact Caster Concepts at (517) 629-8838 or visit www.casterconcepts.com

CONTINUED



GENERAL
INSPECTIONS

**LUBRICATION**

Always be sure to lubricate casters with the appropriately rated grease for their working environment. Casters that are subjected to high-temp applications, extensive washing, full water immersion, and 18-24 hour, 7-day-a-week use (high use) must be greased more frequently.

***Figure 3***
*Use the grease fitting on the swivel section in order to lubricate the caster, if there is no grease fitting on the wheel hub use the hollow axle to grease the wheel*

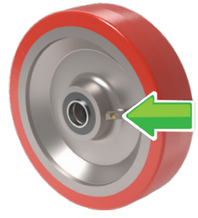


***Figure 4***
*Use the grease fitting on the hub to lubricate the wheel if there is not a hollow axle*

**RECOMMENDED:**

Under normal conditions lubrication is recommended every six months, but once a month may be necessary in extreme applications depending on the enviornment

**Care and Maintenance**

- All caster bearings need to be lubricated with a high quality multi-purpose grease that has good extreme pressure and anti-wear characteristics, as well as withstands temperature range that fits the application requirements. Wheel and swivel bearings last longer if lubricated regularly.
- Some lube applied to friction points on the wheel hub, washer and leg surfaces of straight roller bearing systems reduces drag and improves reliability.
- Cart washings may necessitate lubrication after each wash.

**TIRES**

This section specifically discusses the use of a polyurethane tire bonded to a metallic core. Caster Concepts has several different types of polyurethane offered for wheels. Each type of polyurethane has different properties which make them unique.

**CONSIDERATIONS FOR REPLACEMENT**

- An abundance of foreign debris build up on or in the tire(meaning metal and other materials)
- Large gashes and/or chunks of the wheel tread missing
- Debonding of the tire from the core (creating poly dust, tread is peeling from core)

# TERMS & CONDITIONS

**WARRANTY**

Caster Concepts, Inc. warrants its products to be free from defects in material or workmanship for the period of one year after the date of shipment from our factory. Warranty does not apply in cases of overloading, misapplication, abuse, normal wear and tear, damage in transit or in applications and operating conditions which we were not made aware of in advance. Caster Concepts' liability shall be limited to the replacement cost of the caster or wheel. Caster Concepts will not assume liability for incidental damage from use of its products. This warranty is void if our products are modified by others. No other warranty expressed or implied is made.

**RETURNS AND ADJUSTMENTS**

All returned goods must be authorized in writing in advance of shipment. Goods are to be returned freight prepaid. All goods must be in new and unused condition, and be standard stocking items. A handling charge will be assessed depending on the cost of reconditioning and restocking the product.
Any claims for correction of product or adjustments must be filed with in five days of receipt of order. Custom built or modified products are not subject to return

**TERMS AND CONDITIONS**

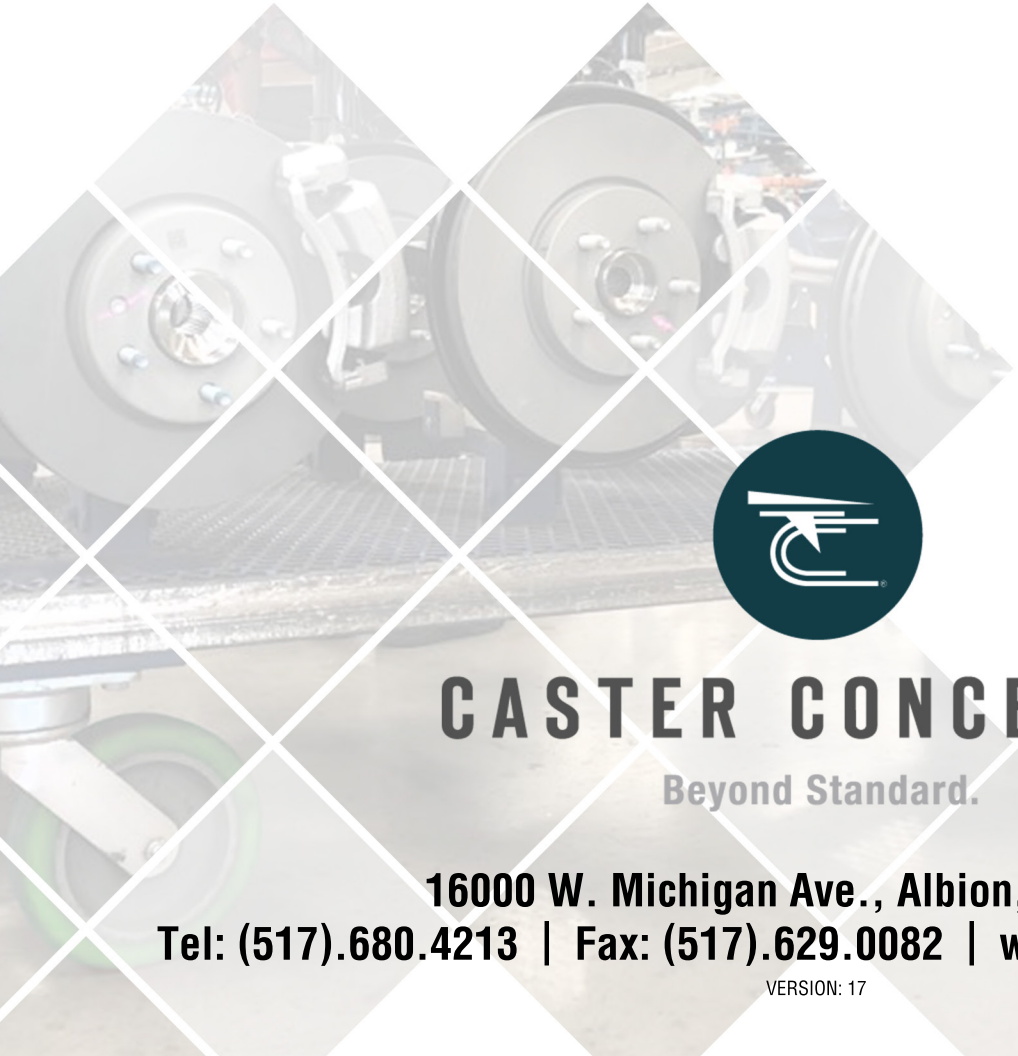
Special or custom manufactured products are not subject to cancellation or return once the work has been started on the order. Our terms are net 30 days to customers with approved credit. Freight is shipped F.O.B. shipping point.

**PRODUCT CHANGES**

As Caster Concepts is constantly improving its products and methods of manufacturing, we reserve the right to modify and/or change our specifications of the products in this catalog without notice. However, we will attempt to keep our active distributors aware of any changes.

# Can’t Find What You Need?
# ASK US!

Our engineering team is second to none, they have conquered challenges that many companies wouldn’t even face, and they have cleaned up the messes that many companies have made. We’re no strangers to complex problems, whether its weight capacity, environment, custom fabrication, ergonomics or anything else related to material handling, we can help.



CASTER CONCEPTS

Beyond Standard.

**16000 W. Michigan Ave., Albion, MI 49224**
**Tel: (517).680.4213 | Fax: (517).629.0082 | www.CasterConcepts.com**

VERSION: 17