

PODZILLA Safety, Maintenance, Inspection, and Repair User's Manual

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Introduction

The PODZILLA lift is arguably the most important tool used in the PODS delivery process. The PODZILLA patented lift system is a major reason why our customers choose PODS. The ability to transport a customer's belongings timely and safely is a key value of PODS. The PODZILLA ensures that a customer's belongings can be placed in nearly any location while at the same time keeping the container level, eliminating the risk of damage to the contents and other customer property.

This maintenance manual describes the inspection, maintenance, repair procedures, and safety considerations necessary to maintain the mechanical integrity of the PODZILLA lift. The management of PODS is committed to providing guidance and instruction in safe work practices that meets and exceeds regulatory requirements. The prevention of accidents and injuries to those who inspect, maintain, repair, and operate the PODZILLA lift is a core value of the company. PODS expects all personnel involved in the inspection, maintenance, repair, and operation of the PODZILLA lift to obey all regulations and policies as identified in this manual. PODS management has endeavored to include in this manual all existing and predictable hazards as well as methods to control and mitigate those hazards. This manual is not meant to be a substitute for local hazard and control strategies but to only serve as a foundation of such. Workers involved in the inspection, maintenance, repair, and operation of the PODZILLA lift must be trained and authorized to do so prior to commencing work activities.

Maintenance

The PODZILLA lift requires appropriate preventative maintenance that should be performed on a systematic schedule. Preventative maintenance helps ensure unexpected mechanical and equipment failures that could result in injury or death to persons, harm to the environment, damage to customer property, and wreckage of the PODZILLA lift. Preventative maintenance is recommended every 30 days, based on an average of 10 deliveries per day, or at a minimum every 300 lifts. Questions regarding preventative maintenance schedules and techniques should be directed to supervision, Fleet Services, PODS management, or the manufacturer.

Maintenance activities require the identification of hazards and their proper controls, such as energy isolation (LOTO) and the use of personal protective equipment (PPE). The hazard controls recommended in this manual are the result of a detailed hazard and risk assessment and are minimum protections based on a standard hierarchy of controls and regulatory requirements. Those performing preventative maintenance should conduct their own hazard assessments and supplement additional controls as necessary.

Installing a Charged Battery in the Remote Unit Receiver

A common preventative and routine maintenance activity is installing a charged battery in the Remote Unit Receiver. Hazards for installing a charged battery and appropriate safety controls are listed below:

- Splash hazards to eyes, hands, and exposed skin from corrosive acids:
    - PPE – Eye protection – Splash resistant safety goggles
    - PPE – Hand protection – Chemical resistant gloves
    - PPE – Skin protection – Long sleeve shirt

- Musculoskeletal hazards to back:
    - Administrative Control – Keep the battery close to the body while lifting. The heaviest side of the battery should be next to the body. Avoid twisting the back or leaning sideways. Shoulders should be kept level and facing in the same direction as the hips. Lift by bending at the knees and not the back. Turning by moving the feet is preferred over twisting and lifting at the same time. The head should be up when lifting. Avoid jerking or snatching the battery when lifting.
    - Place the battery in the desired location by bending the knees and not the back.

To install a charged battery into the Remote Receiver Unit the following steps should be followed:

1. Review the hazards and controls recommended above. Conduct an additional job hazard analysis to confirm all hazards have been identified and appropriate controls and mitigations are in place.
2. Remote control problems are often due to issues with the Remote Transmitter Unit. Troubleshooting of the Remote Transmitter Unit should occur prior to battery replacement.
    a. Verify that the Remote Transmitter Unit is turned on.
    b. Press the reset button on the right side of the Remote Transmitter Unit.
    c. If steps A and B do not resolve the issue, continue to step 3.
3. Locate the Remote Receiver Unit. The unit is mounted to the frame of the PODZILLA lift underneath the Valve Control Bank (Figure 1).
4. Don PPE.
5. Turn the Remote Receiver Unit over to access the bottom (Figure 2).
6. Safely remove the old battery.
7. Place new battery into the battery recess (Figure 3).
8. Slide new battery forward until the battery is set (Figure 3).
9. Test.
10. Should battery replacement not resolve the issue, contact supervision, Fleet Services, PODS management, or the manufacturer.



Figure 1



Figure 2



Figure 3

Job Hazard Analysis: Installing a Charged Battery in the Remote Unit Receiver

Steps	Hazards	Controls
Locate the Remote Receiver Unit	None	None
Turn the Remote Receiver over to access the bottom	Ergonomic, acid splash to the eyes and skin	Safe lifting techniques, splash resistant safety goggles, long sleeve shirt
Safely remove the old battery	Ergonomic, acid splash to the eyes and skin	Safe lifting techniques, splash resistant safety goggles, long sleeve shirt
Place new battery into the recess	Ergonomic	Safe lifting techniques
Slide battery forward into the battery recess	Ergonomic	Safe lifting techniques
Test	None	None

This Job Hazard Analysis (JHA) identifies general hazards and recommended controls. This Job Hazard Analysis is not a replacement or substitute for site-specific hazard identification, risk assessments, and controls. Users are recommended to conduct their own hazard identification, risk assessments, and controls as part of a comprehensive safety, health, and environmental program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Lubricating the Lift

Friction causes heat and heat can be very destructive to mechanical and electrical components. Lubrication acts to reduce the friction of moving parts, thereby lowering operating temperatures. Like most mechanical equipment, the PODZILLA requires adequate lubrication to operate at maximum efficiency over a prolonged time. The action of lubrication also presents hazards to the personnel conducting the maintenance or repair activity such as skin contact, eye contact, and respiratory irritation. High pressure injection injuries can result from grease gun use. They are caused by the accidental injection of grease under pressure through the skin and underlying tissue. Please refer to the appropriate safety data sheet (SDS) for additional hazard and controls. To properly lubricate the PODZILLA lift, workers must deploy all four lift legs and open the spreader bar. This presents a crush hazard for those working underneath the lift.

- Splash hazards to eyes, hands, and exposed skin:
    - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection
    - PPE - Leather gloves
    - PPE - Long sleeve shirt
- Crush Hazard/Pinch Point/Struck by Hazard:
    - Engineering Control – Jack Stands appropriately certified for the weight of the PODZILLA lift's legs
    - Engineering Control – Wheel chocks
    - PPE - ANSI/ASSP Z89.1 Hardhat
    - PPE - Leather gloves
- Injection Hazard:
    - PPE – Leather gloves

Skills Required:	Low/Moderate
Tools Required:	Mobilith AW-2 (or equivalent) lubricating grease
	Latex or rubber gloves or paint brush
	Grease gun (for Zerk fittings)

To properly and safely lubricate the PODZILLA Lift, the following steps should be followed:

1. Review the hazards and controls recommended above. Conduct an additional Job Hazard Analysis to confirm all hazards have been identified and appropriate controls and mitigations are in place.
2. Gather Mobilith® AW-2, Green, Multipurpose Grease, 14 oz, 2 NLGI Grade (or equivalent) lubricating grease, latex gloves or a clean paint brush, and a grease gun for use with the Zerk fittings.
3. Review safety data sheet (SDS) for Mobilith® AW-2, Green, Multipurpose Grease, 14 oz, 2 NLGI Grade (or equivalent) lubricating grease.
4. Don PPE.
5. Chock the front four drive wheels.
6. Place latex gloves or rubber gloves over the leather gloves. The latex gloves provide an extra level of protection and can be used for applying lubrication.
7. Extend all four lift legs and open the spreader bars.
8. Insert Jack Stands.
9. Using the paint brush/latex gloves, apply the Mobilith® AW-2, Green, Multipurpose Grease, 14 oz, 2 NLGI Grade (or equivalent) lubricating grease beginning at a level of two feet higher than ground height to the legs of the PODZILLA lift. The portion of the legs two feet and lower should remain free of grease.
10. Apply grease in a smooth and even coating.
11. Apply grease to the Zerk fittings on the front four drive wheels.
12. Using the grease gun, fill the Zerk fittings on the front four drive wheels until there is an overflow escape from the fitting.
13. Apply grease to the Zerk fittings on the two guide wheels.
14. Using the grease gun, fill the Zerk fittings on the two guide wheels until there is an overflow escape from the fitting.
15. Apply grease to the Zerk fittings on the caster wheel assemblies.
16. Using the grease gun, fill the Zerk fittings on the caster wheel assemblies until there is an overflow escaping from the fitting.
17. Close spreader bars.
18. Remove Jack Stands – **CAUTION – DO NOT ENTER INTO THE AREA BETWEEN THE PODZILLA LIFT LEGS AFTER REMOVING THE JACK STANDS.**
19. Lower all four PODZILLA lift legs.
20. Remove tire chocks.
21. Properly dispose of materials that have come into contact with grease.
22. Clean up any spills.

Job Hazard Analysis – Lubricating the Lift

Steps	Hazards	Controls
Review Safety Data Sheet (SDS) for Mobilith® AW-2, Green, Multipurpose Grease, 14 oz, 2 NLGI Grade (or equivalent) lubricating grease	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Chock the front four drive wheels	Struck by, caught-in-between, pinch point	Ensure brakes are applied, use spotter, leather gloves
Prepare to apply lubrication	Eye, skin, or respiratory track irritation	Place latex gloves over leather gloves for an extra level of protection, ANSI/ASSP Z 87.1 eye protection, long sleeve shirt
Extend all four lift legs and open the spreader bars	Struck by, caught-in-between	Only perform task with qualified personnel
Insert Jack Stands	Struck by, caught-in-between	Leather gloves
Use paint brush/latex gloves to apply the Mobilith® AW-2, Green, Multipurpose Grease, 14 oz, 2 NLGI Grade (or equivalent) lubricating grease beginning at a level of two feet higher than ground height to the legs of the PODZILLA Lift. The two feet and lower portion of the legs should remain free of grease.	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Apply grease in a smooth and even coating	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Apply grease to the Zerk fittings on the front four drive wheels	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Using the grease gun, fill the Zerk fittings on the front four drive wheels until there is an overflow escaping from the fitting.	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Apply grease to the Zerk fittings on the two guide wheels	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

Using the grease gun, fill the Zerk fittings on two guide wheels until there is an overflow escaping from the fitting	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Apply grease to the Zerk fittings on the caster wheel assemblies	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Using the grease gun, fill the Zerk fittings on the caster wheel assemblies until there is an overflow escaping from the fitting	Eye, skin, or respiratory track irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Close the spreader bars	Struck by, caught-in-between	Only perform task with qualified personnel
Remove Jack Stands	Struck by, caught-in-between	Only perform task with qualified personnel

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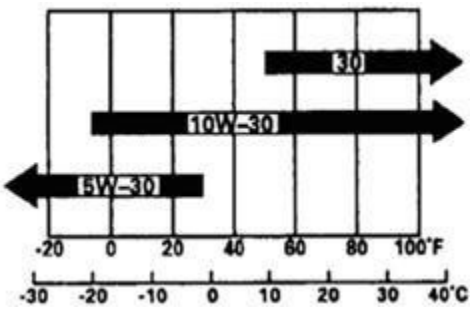
Engine Maintenance

The PODZILLA lift is powered by a Honda gasoline engine either 18hp, 20hp, or 24 hp. The PODZILLA lift is currently being standardized to a 24hp engine. Preventative maintenance is recommended every 30 days, based on an average of 10 deliveries per day, or at a minimum every 300 lifts. Questions regarding preventative maintenance schedules and techniques should be directed to supervision, Fleet Services, PODS management, or the manufacturer. At a minimum, maintenance to the engine should include the following tasks:

NOTE: These task(s) should be completed with the PODZILLA Lift System off the truck bed.

Change the Oil

It is recommended that the oil be changed in the PODZILLA lift's engine after the first 20 hours of operation. Thereafter, the engine oil and filter for the PODZILLA lift should be changed after every 100 hours of operation. Please refer to Figure 4 for the correct oil type and amount as per the manufacturer's recommendation. Questions should be directed to supervision, PODS management, or the manufacturer.



Without oil filter replacement:
1.27 US quarts or
1.20 liters
With oil filter replacement:
1.59 US quarts or
1.50 liters

Figure 4

The changing of oil and oil filters can present splash hazards to the eyes, skin irritation, burns, ingestion, and inhalation hazards. Changing oil that is hot can subject workers to significant burns. Please refer to the appropriate safety data sheet (SDS) for additional hazards and controls.

Caution – Refer to Page 5 of the GX630-690 Shop Manual
Used engine oil contains substances that have been identified as carcinogenic. Repeated exposure to the skin for prolonged periods may cause skin cancer. Wash hands thoroughly with soap and water as soon as possible after contact with used engine oil.

- Splash hazards to eyes, hands, and exposed skin:
    - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield
    - PPE - Leather gloves
    - PPE - Long sleeve shirt

To properly and safely change the oil and oil filter on the PODZILLA lift, the following steps should be followed:

1. Don required PPE.
2. Drain the oil in the engine while the engine is warm.
3. Place the engine on a level surface and place a suitable container under the drain plug bolt (1).
4. Remove the oil filter cap (2) from the head cover (3) and the drain plug bolt to drain the oil into a suitable container.
5. Dispose of used motor oil in a manner that is compatible with environmental considerations. Consideration should be given to placing used oil in a sealed container for recycling. DO NOT dispose of used oil in the trash, pour onto the ground, or pour down drains.
6. Install a new drain plug washer (4) and tighten the drain bolt to the specified torque.
7. TORQUE: 45 Nm (4.5kg-m, 33ft-lb.).
8. Fill with recommended oil to the upper-level mark of the oil level dipstick.
9. Tighten the oil filter cap and install the oil level dipstick securely.

Change the oil filter with every oil change. Be sure to use the correct type and amount of oil (refer to Figure 43) when changing the oil. It is recommended to change the oil and filter after every 50-100 hours of use.

Job Hazard Analysis – Change the Oil

Steps	Hazards	Controls
Review Safety Data Sheet (SDS) for the designated oil	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Drain the oil in the engine while the engine is warm	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Place the engine on a level surface and place a suitable container under the drain plug bolt	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Remove the oil filter cap from the head cover and the drain plug bolt to drain the oil into the container	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Properly dispose of used oil in a manner that is compatible with environmental and fire safety considerations	Eye, skin irritation, burns, ingestions, inhalation hazards, fire.	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt. Use only qualified personnel to dispose of used oil
Install a new drain plug washer and tighten the drain bolt to the specific torque: 45 Nm (4.5kg-m, 33ft-lb)	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Fill with recommended oil to the upper-level mark of the oil level dipstick	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Tighten the oil filter cap and install the oil level dipstick securely	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt

This Job Hazard Analysis identifies general hazards and recommended controls. This Job Hazard Analysis is not a replacement or substitute for site-specific hazard identification, risk assessments, and controls. Users are recommended to conduct their own hazard identification, risk assessments, and controls as part of a comprehensive safety, health, and environmental program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Change the Oil Filter

(Refer to GX630-690 Shop Manual Page 3-3)

1. Don the required PPE.
2. Assemble oil filter wrench 65 mm (2) 07AAA-PLCA100.
3. Remove the oil filter (1) using the special tool (2).
4. Apply a light coat of engine oil to the O-ring (3) of the new oil filter.
5. Install the new oil filter and tighten to the specified torque.
6. TORQUE: 12 Nm (1.2 kg-m, 106 in lb.).
7. Fill with recommended oil to the upper-level mark of the oil level dipstick.
8. Start the engine and warm up for 1 to 2 minutes.
9. Check the oil level and if necessary, fill with the recommended oil to the upper mark of the oil level dip stick.

Job Hazard Analysis – Change the Oil Filter

Steps	Hazards	Controls
Review Safety Data Sheet (SDS) for the designated oil	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Remove the oil filter using the special 65 mm oil filter wrench	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Apply a light coat of engine oil to the O-ring of the new oil filter	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Install the new oil filter and tighten to the specified torque of 12Nm (1.2kg-m, 106 in lb.)	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt
Start the engine and warm up for 1 to 2 minutes	None	None
Check the oil level and if necessary, fill with the recommended oil to the under mark of the oil level dip stick	Eye, skin irritation, burns, ingestions, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt

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Air Filter Check/Cleaning Gasoline Fueled

(Refer to GX630-690 Shop Manual Page 3-4)

Air filter checking and cleaning can present particle and flying debris hazards to the eyes. A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If the engine is operated in dusty areas, clean the air cleaner more often than specified in the maintenance schedule (found in the GX630-690 Shop Manual p. 3-2).

- Hazards to eyes:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt

To properly and safely check and clean the air cleaner/filter on the PODZILLA lift, the following steps should be followed:

Operating the engine without the air filters or with the filter installed too loosely will allow dirt to enter the engine, causing rapid engine wear. Install the air filters securely. Replace the air filter after every 300 hours (12 months) of operation or sooner if needed; check visually.

1. Remove the air cleaner cover (1).
2. Remove the wing nut (2) and air filter assembly (3)(4).
3. Separate the air filters into the inner filter (paper) (3) and the outer filter (foam) (4).
4. Carefully check both filters for holes or tears and replace if damaged.
5. Clean the outer filter (1) in warm soapy water (2) rinse and allow to dry thoroughly or clean with a non-flammable solvent (refer to the appropriate safety data sheet (SDS) for hazard information and controls) and allow to dry thoroughly.
6. Dip the filter in clean engine oil (3) and squeeze out all the excess oil into a proper receptacle (NOTE: Excess oil will restrict air flow through the foam element and may cause the engine to smoke at start up).
7. Tap the inner filter (1) lightly several times on a hard surface to remove excess dirt or blow compressed air lightly (30 psi (207 kPA, 2.11 kgf/ cm^2) or less) through the paper filter from the inside out. Never try to brush dirt from the filter as brushing will force dirt into the fibers.
8. Wipe dirt from the inside of the air cleaner case and the air cleaner cover using a clean rag.
9. Check the air cleaner case packing for deterioration or damage. Make certain the air cleaner packing is installed securely.
10. Attach the outer filter on the inner element, then install the air filter assembly and tighten the wing nut.

Job Hazard Analysis – Air Filter Check/Cleaning Gasoline Fueled

Steps	Hazards	Controls
Remove the air cleaner cover	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Remove the wing nut and the air filter assembly	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-81.1 eye protection with face shield, long sleeve shirt
Separate the air filters into the inner filter (paper) and the outer filter (foam)	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Carefully check both filters for holes or tears and replace if damaged	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Clean the outer filter in warm soapy water, rinse, and allow to dry thoroughly or clean with a non-flammable solvent and allow to dry thoroughly	Chemical specific: Refer to SDS for hazards and controls	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Dip the filter in clean engine oil and squeeze out all excess oil into a proper receptacle	Eye, skin irritation, burns, ingestions, and inhalation hazards. Chemical specific: Refer to SDS for hazards and controls. Maintain fire safety discipline.	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt Allow only qualified personnel to perform task
Tap the inner filter lightly several times on a hard surface to remove excess dirt or blow compressed air lightly (30 psi (207 kPA, 2.11 kgf/cm^2) or less) through the paper filter from the inside out. Never try to brush dirt from the filter as brush will force dirt into the fibers	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt

Wipe dirt from the filter as brush will force dirt into the fibers	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Wipe dirt from the inside of the air cleaner case and the air cleaner cover using a clean rag	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Check the air cleaner case packing for deterioration and damage. Make certain the air cleaner packing is installed securely	None	None
Attach the outer filter on the inner element, the install the air filter assembly and tighten the wing nut	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt

This Job Hazard Analysis identifies general hazards and recommended controls. This Job Hazard Analysis is not a replacement or substitute for site-specific hazard identification, risk assessments, and controls. Users are recommended to conduct their own hazard identification, risk assessments, and controls as part of a comprehensive safety, health, and environmental program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Air Cleaner/Filter Replacement for Gasoline Fueled (Refer to GX630-690 Shop Manual Page 3-6)

Air filter checking and cleaning can present particle and flying debris hazards to the eyes. A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If the engine is operated in dusty areas, replace the air cleaner more often than specified in the maintenance schedule (found in the GX630-690 Shop Manual p. 3-2). Replace the air cleaner/filter every 300 hours (12 months) of operation or sooner as needed.

- Hazards to eyes:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt

To properly and safely check and clean the air cleaner/filter on the PODZILLA lift, the following steps should be followed:

Operating the engine without the air filters or with the filter installed too loosely will allow dirt to enter the engine, causing rapid engine wear. Install the air filters securely. Replace the air filter after every 300 hours (12 months) of operation or sooner if needed; check visually.

1. Don PPE.
2. Remove the air cleaner cover.
3. Remove the wing nut and air cleaner filters.
4. Wipe dirt from the inside of the air cleaner case and the air cleaner cover using a clean rag.
5. Check the air cleaner care packing for deterioration or damage. Make certain the air cleaner packing is installed securely.
6. Install the new air cleaner filters and tighten the wing nut securely. TORQUE: 0.8 Nm (0.08 kg-m, 7 in-lb.).
7. Install the air cleaner cover.

Job Hazard Analysis – Air Filter Replacement for Gasoline Fueled

Steps	Hazards	Controls
Remove the air cleaner cover	Eye, skin irritation, ingestions, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Remove the wing nut and air cleaner filters	Eye, skin irritation, ingestions, pinch points, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Wipe dirt from the inside of the air cleaner case and the air cleaner cover using a clean rag	Eye, skin irritation, ingestions, pinch points, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Check the air cleaner packing for deterioration or damage. Make certain the air cleaner packing is installed securely.	None	None
Install the new air cleaner filters and tighten the wing nut securely. Torque: 0.8 Nm (0.08 kg-m, 7 in-lb.).	Eye, skin irritation, ingestions, pinch points, and inhalation hazards	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt
Install the air cleaner cover	Eye, skin irritation, ingestions, pinch points, and inhalation hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection or splash goggles, face shield, long sleeve shirt

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Spark Plug Check/Adjustment (Refer to GX630-690 Shop Manual Page 3-6)

Checking and adjusting the spark plug can present a burn hazard if the engine has been running and has not had sufficient time to cool. Please refer to the GX630-690 manual for more specific directions.

- Hazards to skin and eyes:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Leather gloves
  - PPE - Long sleeve shirt

To properly and safely check and adjust the spark plug on the PODZILLA lift, the following steps should be followed as further described in the GX630-690 Shop Manual.

1. Don PPE.
2. Remove the spark plug cap, then then remove the spark plug using a spark plug wrench.
3. Verify the new plug gap is correct.
4. Install a new spark plug finger tight to seal the washer.
5. Tighten ½ turn with spark plug wrench.

SPARKPLUG: ZFR5F (NGK)

A loose spark plug can become very hot and can damage the engine. Overtightening can damage the threads in the cylinder block. Install spark plug cap securely.

Please refer to the Job Hazard Analysis for Spark Plug Replacement found in the Appendix.

Job Hazard Analysis – Spark Plug Checking/Adjustment

Steps	Hazards	Controls
Remove the spark plug cap	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Remove the spark plug using a spark plug wrench	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Visually check the spark plug and replace if the insulator is cracked, chipped, or heavily fouled.	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Visually check the sealing washer for damage	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Replace the spark plug if the sealing washer is damaged	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Measure the plug gap with a wire-type feeler gauge. If the measurement is out of the specification, adjust by bending the side electrode. PLUG GAP: 07 – 0.8 mm (0.028 – 0.031 in	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Install the spark plug finger tight to seat the washer, then tighten $^{1}/_{2}$ turn with a spark plug wrench	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Job Hazard Analysis - Spark Plug Replacement - ZFR5F (NGK)

Steps	Hazards	Controls
Remove the spark plug cap	Eye, skin irritation, burn hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Remove the spark plug using a spark plug wrench	Eye, skin irritation, burn hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify the new plug cap is correct	None	None
Install a new spark plug finger tight to seal the washer	Eye, skin irritation, burn hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Tighten ½ turn with spark plug wrench	Eye, skin irritation, burn hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

This Job Hazard Analysis identifies general hazards and recommended controls. This Job Hazard Analysis is not a replacement or substitute for site-specific hazard identification, risk assessments, and controls. Users are recommended to conduct their own hazard identification, risk assessments, and controls as part of a comprehensive safety, health, and environmental program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Fuel Filter Checking (Refer to GX630-690 Shop Manual Page 3-11)

The changing of fuel filters can present serious hazards to workers in addition to hazards to the eyes, skin irritation, burns, ingestion, and inhalation hazards. Replacing fuel filters from a hot engine can subject workers to significant burns. Gasoline is highly flammable and explosive.

Please refer to the appropriate safety data sheet (SDS) for additional hazards and controls.

- Hazards to eyes and skin:
    - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield
    - PPE - Leather gloves
    - PPE - Long sleeve shirt

To properly and safely check and adjust the spark plug on the PODZILLA lift, the following steps should be followed as further described in the GX630-690 Shop Manual Page 3-11:

1. Don PPE.
2. Check area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation.
3. Check the fuel filter for water accumulation or sediment and replace if necessary.
4. Install commercially available tub clamps (HCP6) on the fuel tubes on both sides of the fuel filter.
5. Disconnect the fuel tube from the fuel filter to remove the fuel filter.
6. Install a new fuel filter with the arrow mark toward the carburetor side.
7. Check the connecting parts for any sign of fuel leakage.

Job Hazard Analysis – Fuel Filter Checking/Replacement

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for gasoline for specific hazards and controls	Eye, skin irritation, burn hazards, pinch points. Replacing fuel filters from a hot engine can result in significant burns.	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Check the fuel filter for water accumulation or sediment and replace if necessary	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Install commercially available tub clamps (HCP6) on the fuel tubes on both sides of the fuel filter	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Disconnect the fuel tube from the fuel filter to remove the fuel filter	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Install a new fuel filter with the arrow mark toward the carburetor side	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the connecting parts for any sign of fuel leakage	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt

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Hydraulic Filter Maintenance

The changing of the hydraulic filters can present splash hazards to the eyes, skin irritation, burns, ingestion, and inhalation hazards. Changing hydraulic filters that contain hot hydraulic oil can subject workers to significant burns. Please refer to the appropriate safety data sheet (SDS) for additional hazards and controls.

- Splash hazards to eyes, hands, and exposed skin:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt

To properly and safely check and maintain the Hydraulic Filter on the PODZILLA lift, the following steps should be followed as further described in the GX630-690 Shop Manual:

1. Don PPE.
2. Affix filter wrench or strap wrench to the bottom of the filter.
3. Turn wrench counter-clockwise to remove filter.
4. Once removed, verify the old seal came out completely.
5. Clean filter head with a clean rag.
6. Apply clean hydraulic fluid to the seal of the new filter by rubbing.
7. Place the new filter into position, spin clockwise until seal just touches the filter head.
8. Complete by tightening ¾ of a turn.
9. Pressurize hydraulic system and check for leaks.
10. Dispose of old filter properly.

Job Hazard Analysis – Hydraulic Filter Maintenance

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for hydraulic oil for specific hazards and controls	Eye, skin irritation, burn hazards, pinch points. Replacing fuel filters from a hot engine can result in significant burns	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Affix filter wrench or strap wrench to the bottom of the filter	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Once removed, verify the old seal came out completely	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Clean filter head with a clean rag	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Apply clean hydraulic fluid to the seal of the new filter by rubbing	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Place the new filter into position, spin clockwise until seal just touches the filter head	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Complete by tightening ¾ of a turn	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Pressurize hydraulic system and check for leaks	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Dispose of filter properly	Eye, skin irritation, environmental hazards	Leather gloves, long sleeve shirt, environmental/fire safety disposal procedures

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program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Charge Coil Inspection (Refer to GX630-690 Shop Manual Page 8-6)

The charging system for the PODZILLA lift utilizes maintenance free batteries. The inspection process presents hazards to the eyes, hands, exposed skin, and electrical shock.

- Hazards to eyes, hands, and exposed skin:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Leather gloves
  - PPE - Long sleeve shirt

To properly and safely check and maintain the Hydraulic Filter on the PODZILLA lift, the following steps should be followed as further described in the GX630-690 Shop Manual:

1. Don PPE.
2. Disconnect the charge coil connectors.
3. For the 26 A type, proceed to Resistance Check below.
4. For 27 A and 17 A types, set the DMM to measure AC volts and connect it across the coil wires.
5. Start the engine and slowly raise the throttle to its normal maximum operating position.
6. The output should start low (at idle) and then rise and level off at full throttle.

VOLTAGE Check (4,000 rpm):
2.7 A: 110 – 130 VAC
17 A: 60 – 75 VAC

7. If the output is not within the specified range, stop the engine and measure the resistance between the terminals of the charged coil.

RESISTANCE Check:
2.7 A: 1.9 -2.93 Ω
17 A: 0.18 – 0.28 Ω
26 A: 0.17 – 0.25 Ω

8. Check for continuity between each terminal and engine ground. There should be no continuity.
   a. If the measured resistance is not within the specified range or if any wire has continuity to the engine ground, replace the charge coil (See GX630-690 Shop Manual 8-6).
   b. If the resistance is good but the voltage check was low, inspect the fly wheel. If the fly wheel is determined to be in order, replace the coil and retest.

Job Hazard Analysis – Charge Coil Inspection

Steps	Hazards	Controls
Disconnect the charge coil connectors	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
For the 26 A type, proceed to resistance check below	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
For 27 A and 17 A types, set the DMM to measure AC volts and connect it across the coil wires	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Start the engine and slowly raise the throttle to its normal maximum operating position	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify the output, starting low (at idle) and then rise and level off at full throttle	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Voltage check (4,000 rpm); 2.7 A: 110 – 130 VAC; 17 A: 60 – 75 VAC	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
If the output is not within the specified range, stop the engine and measure the resistance between the terminals and the charged coil	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
RESISTANCE check: 2.7 A: 1.9 -2.93 Ω 17 A: 0.18 – 0.28 Ω 26 A: 0.17 – 0.25 Ω	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Check for continuity between the terminal and engine ground. There should be no continuity. If the measured resistance is not within the specified range or if any wire has continuity to the engine ground, replace the charge coil.	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
If the resistance is good but the voltage check is low, inspect the fly wheel. If the fly wheel is determined to be in order, replace the coil and retest.	Eye, skin irritation, burn hazards, pinch points, electric shock	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Non-Engine Maintenance

- Change the hydraulic filter after every six months of lift operation.
- Check all electrical lines to the engine for frayed or exposed wires.
- Check the battery fluid level. If low, fill to the proper level.
- Check the wear discs every three months, or anytime excessive play in the legs is noticed.
- Wash the lift every other month, using a degreaser and a pressure washer to prevent build-up of grease and dirt.

Tire Pressure (Drive and Caster Wheels)

Maintaining proper tire pressure on the PODZILLA lift is important for safe operations. The recommended tire pressure for the drive and steering tires are marked differently. Maximum stability and maneuverability depend on using the recommended tire pressure. The manufacturer recommends following the pressure displayed on the drive tires and steering tires, which is 90-100 psi +/- 10psi for both. The PODZILLA lift has been tested using a maximum 12,500 lb. load. Maximum loads present steering, stability, and safety hazards when operated on underinflated tires. Tire pressures should be checked daily as part of a routine inspection process for pre-operation. Inadequate pre-operation pressure testing of tires can allow small leaks to occur that can lead to unsafe operation.

Winter Weather Precautions and Recommendations

NOTE: In winter operation, use the choke ONLY to start the lift engine. NEVER use the choke to warm up the lift engine.

NOTE: In winter operation, when it is necessary to run the lift engine throughout the day, be sure to leave the idle control at just above the halfway speed so that spark plugs will not become fouled.

When operating in temperatures 32°F and colder, it is recommended that the air intake vents be duct taped on the pull start housing. Failure to duct tape the air intake vents could result in cold air being forced on the cylinders which will prevent the motor from warming up enough to turn off the choke, which could render the plugs fouled and the oil to become contaminated with gas.

For use on salted roads, be sure to keep the drive chains well-oiled and the swivel base on the casters greased regularly.

Inspection

Introduction

The purpose of this section is to emphasize areas of the PODZILLA Lift System that should be included in your daily operational inspection. The information contained in this guide is for daily inspections of major component areas but is NOT intended to indicate or display all inspection or maintenance areas or parts of the PODZILLA Lift System. The daily inspection will be performed in conjunction with the Daily Driver Combined Checklist. OSHA requires that regular and frequent inspections of equipment be made by a competent person who has the ability to recognize existing and predictable hazards and has the authority to take prompt corrective actions, which include taking the PODZILLA lift system out of service. These inspections are an important part of the overall safety management system of PODS. The purpose of the inspections with regard to safety is that the inspections can help identify areas of improvement and provide the groundwork for policy changes, process improvements, additional controls, and to assist in identifying training short falls.

Daily Component Inspection

Every driver is required to complete a Driver Lift Operational Checklist prior to using the lift to verify that all parts are in working order. Routine and daily lift maintenance is an important part of a driver's responsibility. A well-maintained lift will avoid breakdowns and/or customer delay. Ensuring that the PODZILLA lift is in good working order helps prevent injuries, damage to PODS and customer property, and avoids equipment failures and customer delays. The lift inspection detailed here is also a part of the daily Driver Combined Checklist.

Mechanical Skill Required: Low/Moderate Tools Required for Task:

- PPE
    - PPE - ANSI/ASSP Z87.1 eye protection
    - PPE - Leather gloves
    - PPE - Long sleeve shirt
- Job Hazard Analysis
- 9/16" Open-end or Socket Wrench for Nylon Bushing Plate Bolts
- 7/8" Open-end Wrench for Hydraulic Fittings
- 11/16" Open-end Wrench for Hydraulic Fittings
- Chevron Clarity ISO32 Hydraulic Fluid (as needed)
- One Quart 10W30 Motor Oil (detergent type) (as needed)
- Degreaser Solvent (as needed)
- Pressure Washer (as needed)
- Tire Pressure Gauge

To perform this inspection, the lift can be on or off of the truck, but it must be completely closed with the engine off.

Gasoline Level Inspection

It is imperative to verify the level of fuel in the fuel cell/gasoline container to ensure continued operation throughout the day. Driver ETAs can be directly affected if the PODZILLA does not have the necessary fuel to ensure continued operation for a scheduled day's route.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify fuel cell/gasoline container.

Step 4 - Open fuel cell/gasoline container cap.

Step 5 - Verify full fuel level in fuel cell/gasoline container.



Job Hazard Analysis – Gasoline Level Inspection

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for gasoline for specific hazards and controls	Eye, skin irritation, burn hazards, pinch points. Inspecting gasoline levels from a hot engine can result in significant burns	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Identify fuel cell/gasoline container	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Open fuel cell/gasoline container cap	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Verify full fuel level in fuel cell/gasoline container	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt

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Drive Chain Inspection

Inspection of the drive chain assembly is an integral part of the daily inspection of the PODZILLA lift system. The drive chain assembly should always be inspected for rust, inadequate lubrication, excessive dirt, or looseness due to chain stretch causing misalignment of the chain assembly with the sprocket assemblies. Also verify all teeth are located throughout the entire sprocket assemblies to ensure safe and continued operation throughout the scheduled day's route.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify both drive wheel and drive chain assemblies.

Step 4 - Inspect the chain assembly for rust, excessive dirt, and alignment.

Step 5 - Check the chain for slack (no more than ¾ slack).

Step 6 - Inspect the sprocket assembly for missing teeth.

Step 7 - Spray chain lube onto chain assembly as necessary.



Job Hazard Analysis – Chain Assembly Inspection

Steps	Hazards	Controls
Identify right drive chain assembly	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Inspect the chain assembly for rust, excessive dirt, and alignment	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the chain for slack	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Inspect the sprocket assembly for missing teeth	Eye, skin irritation, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Spray chain lube onto chain assembly as necessary	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt. Remove ignition sources a minimum of 35 feet away from the operation, ensure appropriate fire extinguisher is available and use good fire safety precautions

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Main Rail to Outer Leg Tube Weld Inspection

Inspection of the main rail to outer leg tube welds are imperative to the operation of the PODZILLA lift system. Inspect all weld points throughout the entire perimeter of the main rail to outer leg tube assembly to ensure safe and efficient lift operation. Verify all 4 welds along the main rail to outer leg tube assembly are inspected for any cracks, breaks, or separations.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify all 4 main rails to outer leg tube assemblies.

Step 4 - Inspect the welds along all edges of the main rail to outer leg tube assemblies for cracks, breaks, or separations.



Job Hazard Analysis – Main Rail to Outer Leg Tube Weld Inspection

Steps	Hazards	Controls
Inspect the welds along all edges of the Ram Assembly for cracks, breaks, or separations	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Outer Spreader Tube to Outer Leg Tube Weld Inspection

Inspection of the outer spreader tube to outer leg tube welds are imperative to the operation of the PODZILLA lift system. Inspect all weld points throughout the entire perimeter of the outer spreader tube to outer leg tube welds, including gusset plates to ensure safe and efficient lift operation. Verify all welds along the outer spreader tube to outer leg tube assemblies are inspected for any cracks, breaks, or separations.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Inspect the welds along all edges of the outer spreader tube to outer leg tube assemblies for cracks, breaks, or separations.



Job Hazard Analysis – Outer Spreader Tube to Outer Leg Tube Weld Inspection

Steps	Hazards	Controls
Don Personal Protective Equipment (PPE)	Eye, skin irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Inspect the welds along the edges of the outer spreader tube to outer leg tube assemblies for cracks, breaks, or separations.	Eye, skin irritation, pinch points, cut hazards, caught-in-between, struck by hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or welder's helmet or welder's goggles, long sleeve shirt, steel toed boots, leather, ANSI/ASSP Z-89.1 hard hat, apron, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

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Wear Disk Cap Plate Bolts Inspection (Legs and Spreader Tubes)

Inspect and verify all 32-wear disk cap plate bolts are tight and secure. Loose operation of the PODZILLA will occur if these bolts are not secure. Failure to tighten these bolts will result in uneven wear of the ram assemblies which can lead to equipment failure and unnecessary down time. Use a 9/16” wrench to tighten all bolts to ensure safe and efficient lift operation.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify wear disk cap plate bolts.

Step 4 - Verify the wear disk cap plate bolts are located in the plates.

Step 5 - Verify the wear disk cap plate bolts are secure.

Alternative (Simple) Inspection:

Step 1 - Grab the bottom of the wheel leg while leg is in the up position and shake it back and forth. The leg should have a bit of play in it.

Step 2 - When the play shake is between 1/3” and 1/2”, it is time to visually inspect and/or replace the wear disks.





Job Hazard Analysis – Wear Disk Cap Plate Bolt Inspection (Legs and Spreader Bar)

Steps	Hazards	Controls
Identify the Wear Disk Cap Plate Bolts	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify the Wear Disk Cap Plate bolts are located in the plates	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify the Wear Disk Cap Plate bolts are secure	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Scan the designated bar code	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Alternate (Simple) Inspection		
Grab the bottom of the wheel leg while the leg is in the up position and shake back and forth	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
When the play shake is between 1/3” and 1/2”, it is time to visually inspect and/or replace the bolts	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Lift Chain Assembly Inspection

Verify the lift chain assembly is secure and has no signs of weakness in the chain links. It is imperative to inspect the cotter pins on the lift chain assembly to ensure safe and efficient lift operation.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify lift chain assembly.

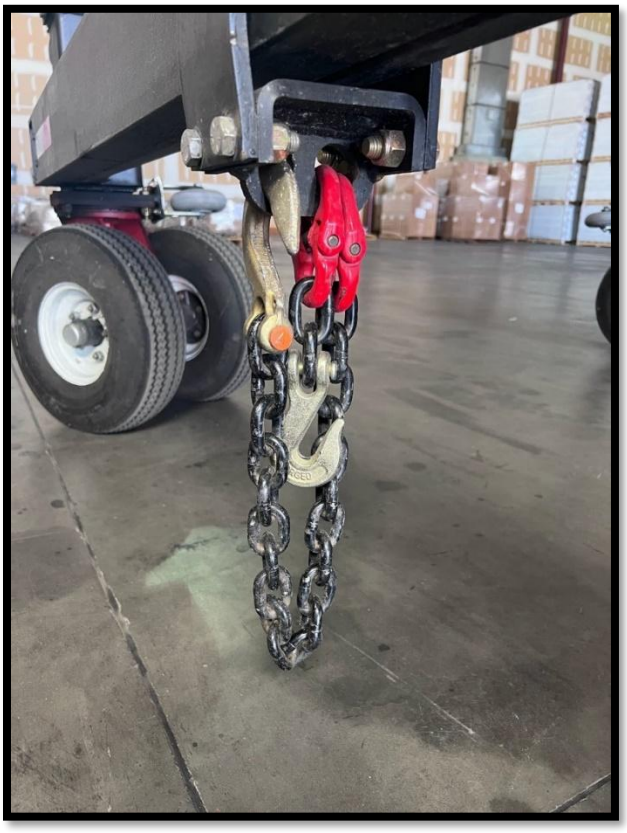
Step 4 - Verify complete chain assembly with chain chokers.

Step 5 - Inspect chain assembly for cracks or elongated links.

Step 6 - Look for mushroomed wear at last link to slider.

Step 7 - Verify cotter pin is installed.

Step 8 - Inspect cotter pin for damage.



Job Hazard Analysis – Lift Chain Assembly Inspection

Steps	Hazards	Controls
Identify the Lift Chain Assembly	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify the complete chain assembly with chain chokers	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect chain assembly for cracks or elongated links	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Look for mushroomed wear at last link to slider	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify cotter pin is installed	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect cotter pin for damage	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Job Hazard Analysis – Lower Eye Hook Assembly Inspection

Steps	Hazards	Controls
Identify the Lower Eye Hook Assembly	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the Eye Hook for worn metal	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the Eye Hook for cracked or separated welds	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Job Hazard Analysis – Upper Eye Hook Assembly Inspection

Steps	Hazards	Controls
Identify the Upper Eye Hook Assembly	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the Eye Hook for worn metal	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the Eye Hook for cracked or separated welds	Eye hazards, cuts, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Main Beam Seam Weld Inspection (Control Side Non-Control Side)

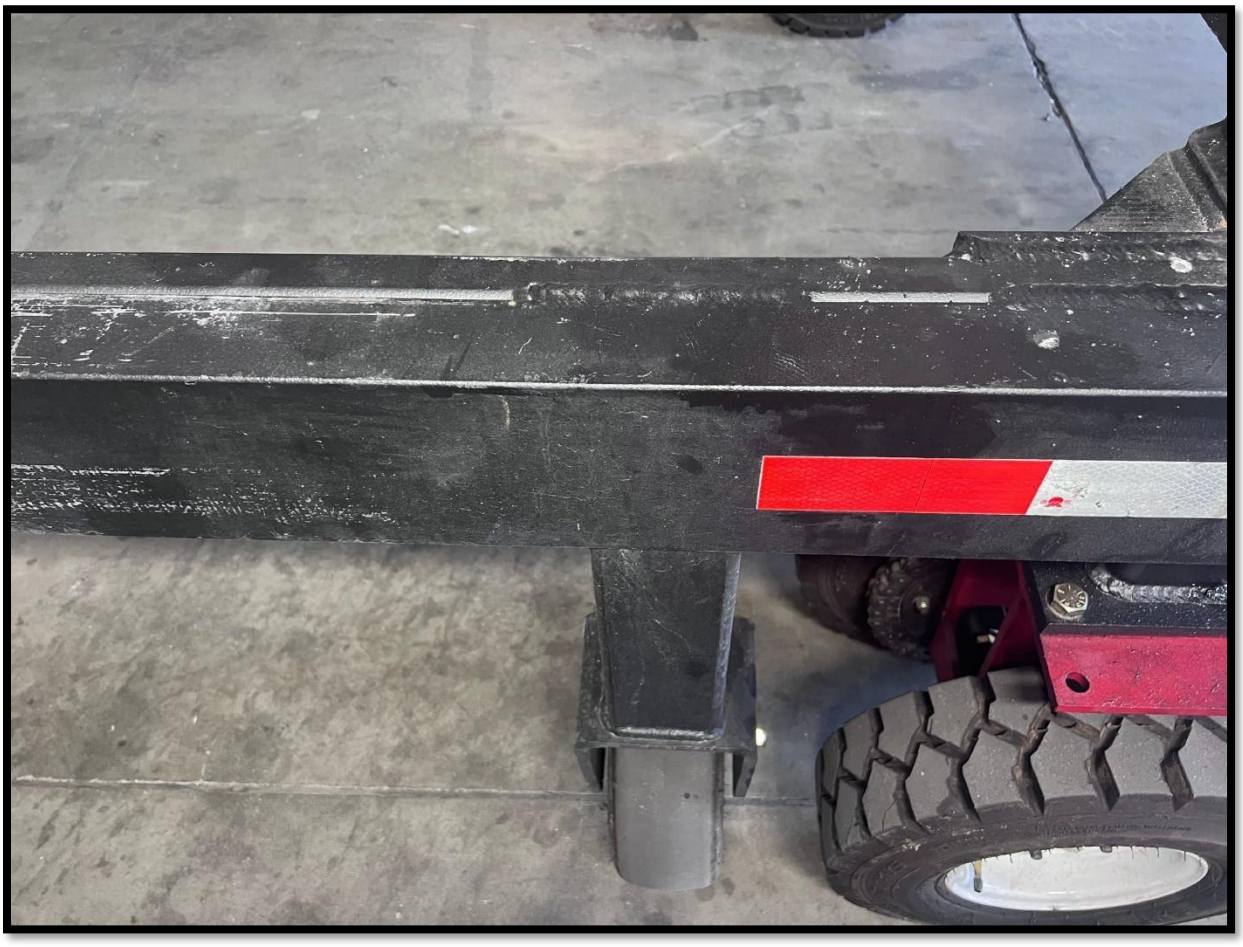
It is imperative to inspect all 9 main beam seam welds along the top and bottom of the main beam. Physically look under the main beam assembly to verify no cracks, breaks, or separations are apparent in any of the welds throughout the main beam assembly.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify 9 main beam seam welds.

Step 4 - Inspect the main beam assembly for cracks, breaks, or separations.



Job Hazard Analysis – Main Beam Seam Weld Inspection (Control Side Non- Control Side)

Steps	Hazards	Controls
Identify Main Beam Seam Weld	Eye hazards, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the Main Beam Assembly for cracks, breaks, or separations	Eye hazards, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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PODS Brand Decal Inspection

Verify the PODS Brand Sign is not torn or peeling. Verify the information on the sign is clearly visible. Verify the sign is clean and free of any debris which may diminish the ability to read the sign.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify PODS Brand Decal.

Step 4 - Inspect the PODS brand sign for evidence of being worn/torn decal.

Step 5 - Inspect the PODS brand sign for dirt and clean with the necessary pressure washer.



Job Hazard Analysis – PODS Brand Sign Inspection

Steps	Hazards	Controls
Identify PODS Brand Sign	Eye hazards, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the PODS Brand Sign for work/torn sign	Eye hazards, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the PODS Brand Sign for missing hardware and sign attachment	Eye hazards, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the PODS Brand Sign for dirt and clean with the necessary pressure washer	Eye hazards, skin irritation, cuts	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt, confirm safe and appropriate psi for pressure washer

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Tire Pressure/Tire Inspection: Caster Tires and Drive Tires

Inspect and verify the correct tire pressure in each tire to ensure safe and efficient operation. Inaccuracies in movement as well as blown out tires are a direct reflection of low air pressure in tires. In order to achieve maximum maneuverability and the ability to climb inclines, the air pressure should be in accordance with the recommended tire pressure indicated on the tire (90-100 psi +/- 10 psi).

Inadequate tire pressure and poor tire condition will cause performance issues and potential failures could result in serious injury or death. In addition, tire condition affects the longevity of bearings and axles. Cracking of the axle will leave a lift grounded and is a direct result of uneven air pressure in tires. Finally, the customer's experience is affected if drive tire and caster tire marks are left on the driveway. This is usually caused by tires being unevenly filled and under filled.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify front caster tires and rear drive tires.

Step 4 - Inspect the tires for excessive wear, cracks, or punctures.

Step 5 - Verify listed load range and tire pressure (90-100 psi +/- 10 psi).

Step 6 - Verify lug nuts are secure and snug.





Job Hazard Analysis – Tire Pressure/Tire Inspection: Caster Tires and Drive Tires

Steps	Hazards	Controls
Identify Front Caster Tires and Rear Drive Tires	Eye hazards, pinch points, pressure	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Inspect the tires for excessive wear, cracks, or punctures	Eye hazards, pinch points, pressure	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify listed load range and tire pressure on sidewall of tires	Eye hazards, pinch points, pressure	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Verify lug nuts are secure and snug	Eye hazards, pinch points, pressure	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Hydraulic Fluid Verification

Verify the hydraulic fluid level is accurate as the PODZILLA lift is on/off the bed of the PODS delivery truck. Inspect the gauge to verify there are no cracks or leaks which would hinder the ability to obtain an accurate reading.

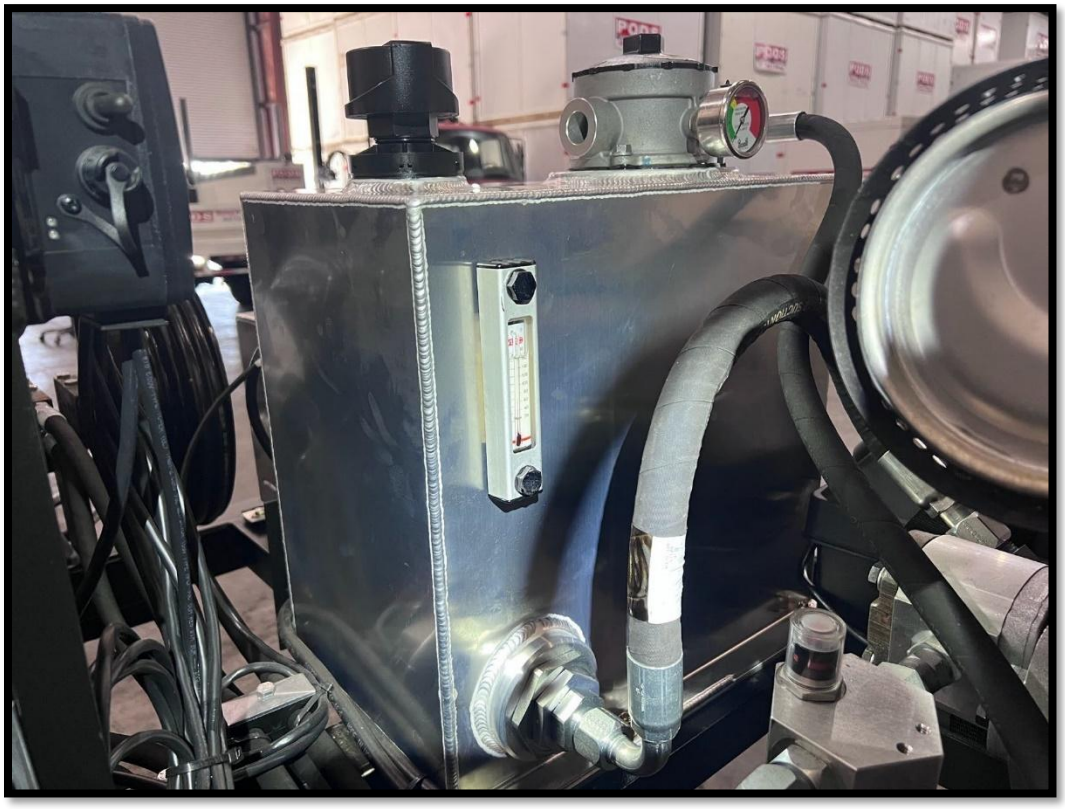
Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Inspect the sight gauge for cracks or leaks.

Step 4 - Verify hydraulic fluid fill minimum of 1/3 on sight gauge if the PODZILLA is ON the truck.

Step 5 - Verify hydraulic fluid fill maximum of 2/3 on sight gauge if the PODZILLA is OFF of the truck.



Job Hazard Analysis – Hydraulic Fluid Verification

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for hydraulic fluids for specific hazards and controls	Eye, skin irritation, burn hazards, pinch points. Hydraulic fluid from a hot engine can result in significant burns	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Inspect the sight gauge for cracks or leaks	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Verify hydraulic fluid fill is a minimum of 1/3 on the sight gauge if the PODZILLA is ON the truck	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Verify hydraulic fluid fill is a maximum of 2/3 on sight gauge if the PODZILLA is OFF the truck	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt

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Engine Oil Verification

Verify the oil level in the PODZILLA motor is checked BEFORE the equipment is started to reduce the chances of having premature engine failure due to a lack of motor oil. Verify the necessary level of oil is clearly indicated on the Oil Dip Stick. Use a rag or paper towel to wipe off excess oil from the Oil Dip Stick. Add oil as necessary. Use the correct weight of oil based on the climate, as outlined in the maintenance section of this manual.

Step 1 - Identify hazards and controls using Job Hazard Analysis found in the Appendix.

Step 2 - Don PPE.

Step 3 - Identify Oil Dip Stick.

Step 4 - Remove Oil Dip Stick from motor.

Step 5 - Wipe Oil Dip Stick clean of residual oil.

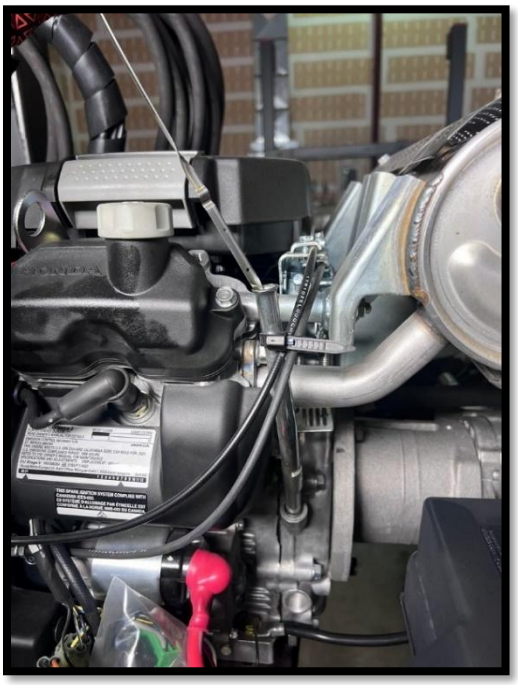
Step 6 - Fully insert the Oil Dip Stick.

Step 7 - Remove Oil Dip Stick from motor.

Step 8 - Verify the oil level in accordance with min/max level of the Oil Dip Stick.

Step 9 - Add 10W30 motor oil to the motor as necessary (oil capacity is 1.25-1.5 quarts).





In addition to the procedure outlined above for daily inspection of the PODZILLA Lift System, the following processes should be performed to ensure safe lift operation:

1. Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.
2. Don appropriate PPE and implement specified controls.
3. Charge the hydraulic system. Start the hydraulic pump motor and allow it to run long enough (approximately 3.5 seconds) to warm the motor oil. With the motor running, charge the hydraulic system by opening and closing the valves for the legs, spreaders, and drive motors. Check the hydraulic control valve bank to make sure that each control and valve is operating properly. Check all rams to ensure that they are working properly. There is a ram inside each of the two inner spreader tubes and in each of the four vertical leg inner tubes. Raise and lower each leg to assure proper functioning.
4. Check the hydraulic fluid filter connection for leaks. If it is leaking, tighten with the strap wrench or replace the hydraulic fluid filter (Prince filters or equivalent).
5. Visually inspect all hydraulic hoses and fittings for hydraulic fluid leaks. If any leaking is noticed at the fittings, tighten the fittings using the appropriate wrench (Replace any leaking or damaged hoses and/or any fittings that still leak after tightening).
6. Check the spreader wheels for damage and excessive wear. These wheels are solid foam filled at the factory and do not require air pressure checks or adjustments. Replace the tire if it is worn through to the nylon thread belt.
7. Check the spring-loaded locks on the (caster) lift wheels. The wheel frames should turn freely and lock into the travel position. Replace the springs if they are not functioning or if they are worn.
8. Check the gray guide wheels and wheel shafts for damage. Make sure the wheels turn freely. Replace damaged wheels and shafts.
9. Tie-Down Straps. If the tie-down straps show signs of wear, they should be replaced.

Job Hazard Analysis – Engine Oil Verification

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for engine oil for specific hazards and controls	Eye, skin irritation, burn hazards, pinch points. Engine oil from a hot engine can result in significant burns	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Identify Oil Dip Stick	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Remove Oil Dip Stick from motor	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Wipe Oil Dip Stick clean of residual oil	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Fully insert Oil Dip Stick	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Remove Oil Dip Stick	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Verify the oil level in accordance with the min/max level of the Oil Dip Stick	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Add 10W30 motor oil to the motor as necessary (Oil capacity is 1.25 – 1.5 quarts)	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt

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Repair

Types of Repairs

Maintenance of the Manual-Control Lift and the Remote-Control Lift is essentially the same. The only difference is in the remote control and the receiver units on the remote-control lift. No repairs on the transmitter or receiver of the remote-control lift can be made by a user. Any problems with the transmitter or receiver units should be directed to the Equipment Services Manager at PODS Corporate Headquarters.

For repairs to be conducted safely, it is important to understand the hazards of each action and the controls that keep workers safe. Included in the Appendix of this manual are Job Hazard Analyses that include the steps workers should take, identified hazards, and appropriate controls used to protect workers. Please refer to the specific Job Hazard Analysis for the task being performed.

- In the field, the following types of maintenance and repairs are typically performed by the driver:
  - Fill the gasoline tank for the engine
  - Add hydraulic fluid (ONLY ISO32 Clarity Hydraulic Fluid) to the hydraulic fuel tank
  - Tighten loose hydraulic hose connectors
  - Replace a hydraulic line/hose
  - Replace a cotter pin between chains and hooks
- In the shop, the following types of repairs are generally performed while the lift is on the truck:
  - Replace a hydraulic line/hose
  - Replace the hydraulic pump
  - Replace a tie-down assembly
  - Replace a tie-down strap
  - Service the engine
  - Repair the engine
  - Replace a guide wheel
  - Replace nylon wear discs
  - Replace or remove damaged wheels
- Monthly inspection and maintenance, as well as the following types of repairs, typically require the lift to be removed from the truck:
  - Replace a nylon pad
  - Replace a ram
  - Repair welds
  - Repair the engine
  - Repair the front wheel drive chains
  - Repair the front drive assembly
  - Replace the hydraulic fluid filter

Cascade Reel Replacement

Replacing the Cascade Reel presents hazards that could result in serious injury due to chemical exposure, pinch points, and caught-in-between risks.

- Hazards to eyes and hands:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots

To properly replace the Cascade Reel on the PODZILLA lift, the following steps should be followed:

- Assemble Tools Required for Task:
  - 2-11/16” open end wrench
  - 2-3/4” open end wrench
  - 9/16” socket and ratchet
  - 9/16” box end wrench
  - Spill bucket
  - Vise Grips

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

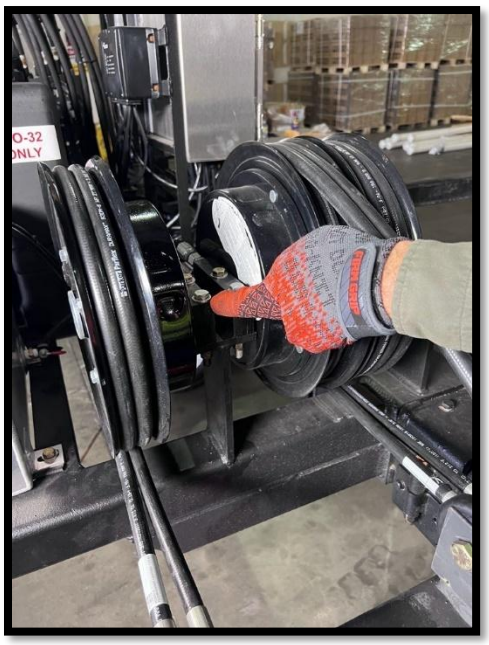
Step 3 - Refer to appropriate safety data sheet (SDS) for hydraulic fluid and place spill container underneath reel assembly to catch excess fluid.



Step 4 - Close and turn off the lift before working on the cascading reels using energy isolation procedure.

Step 5 - Release pressure from the hydraulic lines by pushing handles on Walvoil valve backwards and forwards.





Step 6 - Remove the hydraulic lines going out of the reel assembly that is to be replaced. Mark and label hydraulic lines.

Step 7 **-** The cascade reel is spring tension mounted and if the cascade reel isn't held firmly, the cascade reel will uncoil quickly and dangerously. While firmly grasping the hydraulic hoses that are coming out of the front of the cascade reel, unscrew hoses from hose block. Slowly unwind hose reel. Remember to wear safety gloves/leather gloves; the cascade reel may be sharp.

Step 8 - Remove bolts that attach cascade reel to cascade reel mounting block. Remember you only need to remove the bolts that correspond to the reel that is being replaced.

Step 9 - Install new hose reel.

Step 10 - Align new hose reel with hose fittings that correspond.



Step 11 - Attach new cascade reel to cascade reel mounting block and tighten bolts.

Step 12 - Wind cascade reel 7 times.

Step 13 - Reattach hoses to block.

Step 14 - Reattach hose to rear of reel.

Step 15 - Check hydraulic fluid gauge and replace any fluid that is lost during this task.

Step 16 - Properly dispose of excess hydraulic fluid.

Job Hazard Analysis – Cascade Reel Replacement

Steps	Hazards	Controls
Refer to safety data sheet (SDS) for hydraulic fluid	Eye, skin irritation, burn hazards, pinch points. Hydraulic fluid from a hot engine can result in significant burns.	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Place spill container underneath cascade reel assembly to catch excess fluid	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Close and turn off the lift prior to working on the cascading reels using an energy isolation procedure	Eye, skin irritation, burn hazards, pinch points, unexpected energization	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt. Energy isolation.
Release pressure from the hydraulic lines by pushing handles on the Walvoil valve backwards and forwards	Eye, skin irritation, burn hazards, pinch points, pressure	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Remove the hydraulic lines going out of the reel assembly that is to be replaced. Mark and label hydraulic lines.	Eye, skin irritation, burn hazards, pinch points	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
The cascade reel is spring tension mounted. The cascade reel must be held firmly to avoid uncoiling quickly and dangerously. To avoid struck-by hazards, firmly grasp the hydraulic hoses that are coming out of the front of the cascade reel and unscrew hoses from the hose block.	Eye, skin irritation, burn hazards, pinch points, struck-by, cut hazards to hands.	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Remove the bolts that attach the cascade reel to the cascade mounting block. Only remove the bolts that correspond to the reel being replaced.	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt

Install new hose reel	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Attach new cascade reel to cascade reel mounting block and tighten bolts	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Wind cascade reel 7 times	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Reattach hoses to block	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Reattach hose to rear of reel	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt
Check hydraulic fluid gauge and replace any fluid that has been lost during the process	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands	Leather gloves, splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt. Fire safety precautions, ensure an appropriate fire extinguisher is available.

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Caster Axle Replacement

NOTE: Both caster wheels must be removed in order to remove the caster axle.

Caster Axle replacement presents hazards that could result in serious injury to eyes, face, hands, arms, and body. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to eyes, hands, and body:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Welder's helmet or welder's goggles
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots

To properly replace the Caster Axle on the PODZILLA lift, the following steps should be followed:

- Assemble Tools Required for Task:
  - 13/16" Socket and ratchet with extension
  - Needle nose pliers
  - Hammer
  - Cut off wheel grinder or cutting torch
  - Safety glasses
  - Render area safe for hot work. Hot work permit may be required.

Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Render the area safe for hot work.

Step 4 - Follow instructions from Caster Wheel Replacement on the following page to remove both caster wheels.

Step 5 - Remove dust cover.

Step 6 - Remove the cotter key; unscrew and remove the king nut.

Step 7 - Remove washer, hub, and bearings (Figure 48).

Step 8 - On the bottom of the axle assembly there is a welded locking bolt (Figure 103). Cut the weld using a cut-off wheel or torch and remove bolt. To prevent injury and to reduce fire hazards, please wear appropriate PPE and refer to the specific Job Hazard Analysis found in the Appendix.

Step 9 - Remove axle from caster assembly.

Step 10 - Replace damaged axle with new axle, making sure the locking bolt hole on the axle and caster assembly are aligned.

Step 11 - Install and tighten the locking bolt.

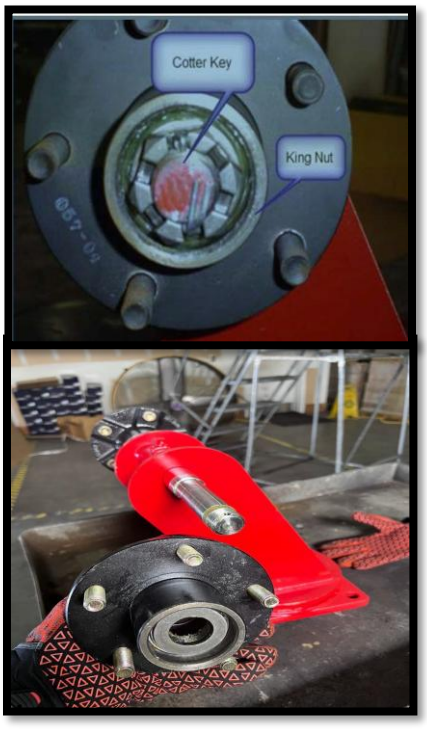
Step 12 - Replace washer, hub, and bearings. Grease all bearings before install.

Step 13 - Install king nut and cotter key. Be sure to bend the ends of the cotter key so it will not slip out of position.

Step 14 - Replace dust cover using hammer to tap into place.

Step 15 - Reinstall caster wheels and tighten lug nut





Job Hazard Analysis – Caster Axle Replacement

Steps	Hazards	Controls
Render the area safe for hot work. Hot Work Permit may be required.	Burn and fire hazards	Leather gloves, welder's helmet/goggles or ANSI/ASSP Z-87.1 eye protection with a face shield, long sleeve shirt. Leather apron, steel toed boots.
Check the area for ignition sources and remove ignition sources a minimum of 35 feet away from the operation	Burn and fire hazards	Fire safety precautions, ensure an appropriate fire extinguisher is available
Follow Caster Wheel Replacement instructions from the PODZILLA Maintenance, Inspection, and Repair Manual and JHA.	Eye, skin irritation, burn hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Remove dust cover	Eye, skin irritation, cut hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Remove the cotter key; unscrew and remove the king nut	Eye, skin irritation, cut hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Remove washer, hub, and bearings	Eye, skin irritation, cut hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Locate the welded locking bolt on the bottom of the axle assembly. Cut the weld using a cutting/grinding wheel or torch to remove the bolt.	Eye, skin irritation, burn hazards, fire, pinch points, struck-by, cut hazards to hands	Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield or welder's helmet or welder's goggles, leather apron, long sleeve shirt, steel toed boots. Ensure appropriate fire extinguisher is available and fire safety precautions are utilized. Combustible materials must be moved a minimum of 35 feet from the source of ignition.
Remove axle from caster assembly	Eye, skin irritation, burn hazards, pinch points, cut hazards to the hands, struck-by, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, safe lifting techniques
Replace damaged axle with new axle, making sure that the locking bolt hole on the axle and caster assembly are aligned	Eye, skin irritation, pinch points, cut hazards to the hands, struck-by, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, safe lifting techniques
Install and tighten locking bolt	Eye, skin irritation, pinch points,	Leather gloves, splash ANSI/ASSP

	cut hazards to the hands	Z-87.1 eye protection, long sleeve shirt, steel toed boots
Replace washer, hub, and bearings.	Eye, skin irritation, pinch points, cut hazards to the hands	Leather gloves, splash ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Install king nut and cotter key. Be certain to bend the end of the cotter key so it will not slip out of position.	Eye, skin irritation, pinch points, cut hazards to the hands	Leather gloves, splash ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Replace dust cover using hammer to tap into place	Eye, skin irritation, cut hazards, pinch points, struck-by hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Reinstall caster wheels and tighten lug nuts	Eye, skin irritation, pinch points, cut hazards to the hands	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Caster Wheel Replacement

If a caster wheel is damaged, it should be replaced. The entire wheel assembly can be replaced if the damage is severe—unbolt the existing assembly and secure a new assembly to the lift leg. Each wheel is on a metal shaft that is secured with bolts. Damaged metal shafts should also be replaced. In order to perform this task easily, raise the damaged caster lift leg off the ground.

Caster wheel replacement presents struck-by and caught-in-between hazards that could result in serious injury or death. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to eyes, hands, and body:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots

To properly replace the caster wheel on the PODZILLA lift, the following steps should be followed:

- Assemble Tools Required for Task:
  - 13/16” socket and ratchet with extension
  - Jack Stand

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Raise the lift leg and install Jack Stand under the PODZILLA lift.

Step 4 - Remove 5 lug nuts.

Step 5 - Remove tire and rim.

Step 6 - Replace tire and rim.

Step 7 - Retighten lug nuts.

Step 8 - Remove Jack Stand.

Step 9 - Lower left leg.



Job Hazard Analysis – Caster Wheel Replacement

Steps	Hazards	Controls
Raise the lift leg and install Jack Stand under the PODZILLA lift	Eye, struck-by, caught-in-between, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Remove 5 lug nuts	Eye, struck-by, caught-in-between, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Remove tire and rim	Eye, struck-by, caught-in-between, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Replace tire and rim	Eye, struck-by, caught-in-between, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Remove Jack Stand	Eye, struck-by, caught-in-between, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat

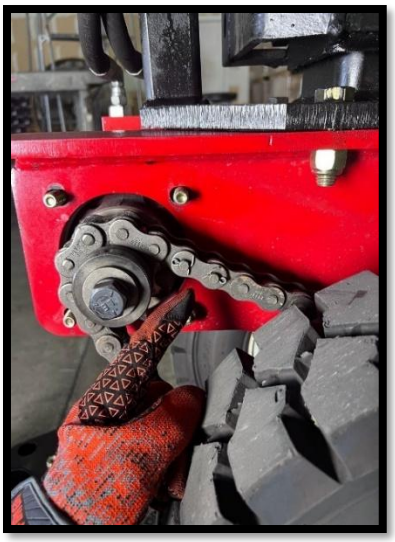
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Drive Chain Replacement

Drive Chain replacement presents pinch point hazards that could result in serious injury. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to fingers and hands:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - Flat head screwdriver

The drive wheel chains can become damaged if the spreaders are operated with the lift's drive wheels on the ground.



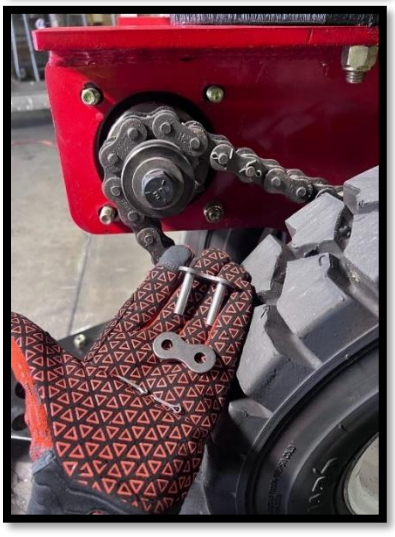
Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Raise the leg of the lift of the drive chain that needs to be replaced.

Step 4 - Place Jack Stand under lift.

Step 5 - With lift running, turn wheel to find the master link.



Step 6 - Raise the leg of the lift of the drive chain that needs to be replaced.

Step 7 - Remove the master link cotter keys and master link.

Step 8 - Remove damaged chain.

Step 9 - Install new chain and lube using chain lube.

Step 10 - Secure the new chain's master link

Step 11-Install Chain Guard (if installed)

Job Hazard Analysis – Drive Chain Replacement

Steps	Hazards	Controls
Raise the lift leg of the Drive Chain that needs to be replaced and install Jack Stand under the PODZILLA lift	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
With the lift running, turn wheel to find the master link	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Raise the leg of the lift of the drive chain that needs to be replaced	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Remove the master link locking clip and master link	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Remove the damaged chain	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Install the new chain	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Secure the new chain's master link	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Lower lift leg	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat

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Drive Motor Replacement

Drive Motor replacement presents pinch point, chemical splash, and struck-by hazards that could result in serious injury. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands, eyes, and body:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Tools Required for Task:
  - 2-3/4" open ended wrench
  - 11/16" open ended wrench
  - 15/16" open ended wrench
  - Flat head screwdriver
  - Allen Wrench
  - Safety Data Sheet (SDS) for Hydraulic Fluid
  - Appropriate Spill Containment

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Refer to the appropriate safety data sheet (SDS).

Step 4 - Remove the master link and chain following instructions from Drive Chain Replacement section.

Step 5 - Remove the two hydraulic lines connected to the drive assembly. Use bucket spill containment to catch any hydraulic fluid that was in the lines. Mark the hydraulic lines after removing. Remove fittings from old motor.

Step 6 - Using 2-3/4" open ended wrenches, remove 4 bolts attaching drive motor to lift. Remove motor.

Step 7 - Remove gear from drive motor using an Allen wrench.

Step 8 - Attach gear to new motor.

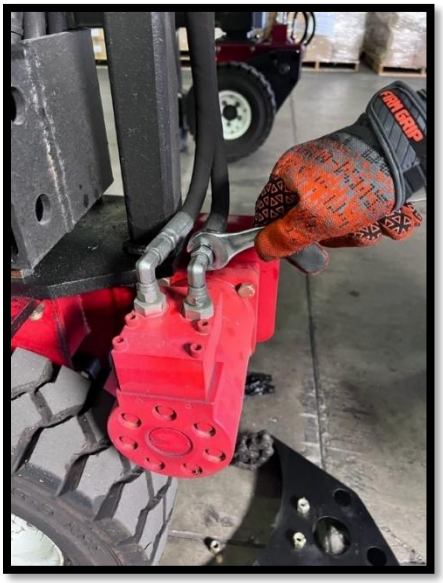
Step 9 - Attach hydraulic fittings to new motor.

Step 10 - Reattach drive motor to lift using 4 bolts.

Step 11 - Reattach hydraulic lines. Tighten the hydraulic lines to finger tight plus ¼ turn using a wrench. Remember to not over tighten the hydraulic fittings. It may cause the lift to leak.

Step 12 - Check hydraulic fluid gauge and replace any fluid that is lost.

Step 13 - Properly dispose of hydraulic fluid.







Job Hazard Analysis – Drive Motor Replacement

Steps	Hazards	Controls
Remove the master link and chain following the instructions found in the PODZILLA Maintenance, Inspection, and Repair Manual and JHA	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Remove the two hydraulic lines connected to the drive assembly. Use spill containment to catch any hydraulic fluid flowing from the lines. Refer to the appropriate safety data sheet (SDS) for the hydraulic fluid for specific hazards and controls. Mark the hydraulic lines after removing. Remove fittings from old motor.	Eye, chemical splash, pinch points, cut hazards, fire, burn hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat. Use fire safety precautions and remove ignition sources beyond 35 feet of the operation.
Using 2-3/4" open ended wrenches, remove 4 bolts attaching drive motor to lift. Remove motor.	Eye, struck-by, caught-in-between, pinch points, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Remove gear from drive motor using an Allen wrench	Eye, struck-by, caught-in-between, pinch points, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Attach gear to new motor	Eye, struck-by, caught-in-between, pinch points, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat, safe lifting procedures
Reattach driver motor to lift using 4 bolts.	Eye, struck-by, caught-in-between, pinch points, cut hazards,	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat
Reattach hydraulic lines. Tighten the hydraulic lines to finger tight plus ¼ turn using a wrench. Do not over tighten. Over tightening may cause leaks	Eye, struck-by, caught-in-between, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hardhat

Check hydraulic fluid gauge and replace any fluid that is lost	Eye, skin irritation	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt
Properly dispose of waste/hydraulic fluid	Eye, skin irritation, fire, environmental considerations	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, appropriate environmental and fire safety procedures

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PODZILLA Fuel Tank - Plastic Retrofit

The original standard steel tanks on the PODZILLA does not allow the drivers to know the level of fuel inside. This required the drivers to carry sticks to measure the fuel level exposing them to hazardous vapors. The new tank is clear and has a capacity of 7 gallons compared to the 5 gallons of the steel tank.

The PODZILLA Fuel Tank presents cutting and chemical splash hazards that could result in fire, burns, serious injury, or death. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands, eyes, and body:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Parts and Labor:
  - Labor Time .75 – 1.00 Hrs.
  - Part number LHY079 Fuel Tank 7 GL Kit Natural Color (clear)
- Assemble Tools Needed:
  - 9/16” Socket and 9/16” wrench
  - 7/16” socket and 7/16” wrench
  - Standard screwdriver and Phillips screwdriver
  - Cutters
  - Safety Data Sheet (SDS) for gasoline

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

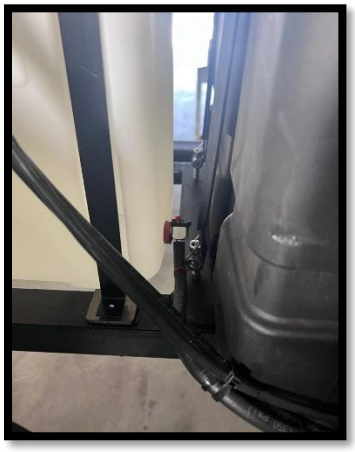
Step 2 - Don required PPE.

Step 3 - Refer to the appropriate safety data sheet (SDS).

Step 4 - Remove ignition sources.

Step 5 - Remove breather cap from old tank and syphon the fuel from the old tank.

Step 6 - Remove and plug the fuel line. Then remove the mounting hardware securing the tank to the power rack.





Step 7 - The plastic tank will come with two steel adapter plates and two steel tank straps for mounting.



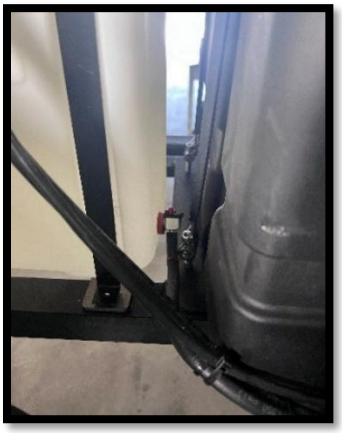
Step 8 - Use the old tank hardware and loosely fit the tank mounts to the power rack. Do not tighten.



Step 9 - Attach the fuel line to the new tank and secure it with a zip tie or hose clamp.



Step 10 - Place the tank so the fuel petcock is facing the hydraulic tank. Place the mounting straps in the grooves of the plastic tank.



Step 11 - Secure the tank straps to the steel adapter plates. Use the ¼" hardware that came in the kit.



Step 12 - After the steel straps have been tightened, tighten the steel adapter plates to the power rack. Your installation is now complete. Make sure the petcock is in the ON position.

Job Hazard Analysis – PODZILLA Fuel Tank - Plastic Retrofit

Steps	Hazards	Controls
Remove the breather cap from the old tank and syphon the fuel from the old tank. Refer to the appropriate safety data sheet (SDS) for gasoline for additional hazards and controls. Place container on the ground. Keep the fuel nozzle in contact with the container to avoid static electricity.	Eye, chemical splash, skin irritation, inhalation, static electricity, and fire hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt. Remove ignition sources within 25 feet of the operation. Ensure appropriate fire extinguisher is available. Only use approved portable containers (CSA or ULC approved). Syphon fuel only into approved containers. Avoid breathing in vapor.
Remove and plug the fuel line. Remove the mounting hardware securing the tank to the power rack.	Eye, chemical splash, pinch points, cut hazards, fire, burn hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt. Use fire safety precautions and remove ignition sources beyond 35 feet of the operation.
The plastic tank is installed with 2 steel adapters plated and two steel tank straps for mounting. Use the old tank hardware and loosely fit the tank mounts into the power rack. Do not tighten.	Eye, cut hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Attach the fuel line to the new tank and secure with a zip tie or hose clamp.	Eye, cut hazards, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Place the tank so the fuel petcock is facing the hydraulic tank. Place the mounting straps in the grooves of the plastic tank.	Eye, struck-by, caught-in-between, pinch points, cut hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, safe lifting procedures
Secure the tank straps to the steel adapter plates. Use the ¼" hardware included in the kit.	Eye, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

Tighten the steel adapter plates to the power rack. Ensure the petcock is in the ON position.	Eye, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt

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Guide Wheel Replacement

If a guide wheel is damaged, it should be replaced. Each wheel is on a metal shaft that is secured with a bolt. Damaged shafts should also be replaced.

Guide wheel replacement presents pinch point, eye, and crushing hazards that could result in serious injury. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands, arms. and eyes:
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - 2 each - 9/16” Socket or open-end wrench

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Using the 2 wrenches, one on either side of the bolt, unscrew bolts from mounting plate.



Step 4 - Slide the damaged wheel off the shaft. If necessary, replace the shaft.

Step 5 - Slide a new wheel onto the shaft, making sure that the top of the new wheel is flush with the top of the mounting plate.

Step 6 - Re-secure bolts to the mounting plate. If the guide wheel brackets are bent, use tools such as a crowbar and a hammer to straighten the bracket. If bracket is too bent, heat (gas torch) may have to be applied to straighten it.

Job Hazard Analysis – Guide Wheel Replacement

Steps	Hazards	Controls
Using two wrenches, one on either side of the bolt, unscrew the bolts from the mounting plate.	Eye, pinch points, skin irritation, cut hazards, crush hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Slide the damaged wheel off the shaft and if necessary, replace the shaft.	Eye, pinch points, cut hazards, crush hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, safe lifting procedures
Slide the new wheel onto the shaft, making sure the top of the new wheel is flush with the top of the mounting plate.	Eye, pinch points, cut hazards, crush hazards, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, safe lifting procedures
Re-secure the bolts to the mounting plate. If the guide wheel brackets are bent, use tools such as a crowbar and hammer to straighten the bracket. If the bracket is too bent, heat in the form of a gas torch may be necessary to straighten the bracket.	Eye, cut hazards, pinch points Fire, burns. Use fire safety procedures. A Hot Work Permit may be required.	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt ANSI/ASSP 87.1 eye protection with face shield or welder's helmet or welder's goggles. Remove combustibles a minimum of 35 feet from the point of operation. Ensure an appropriate fire extinguisher is available.

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Hydraulic Hose Replacement

NOTE: If the connectors are leaking, tighten to stop leakage. If leaking continues, replace hose. If the hose is leaking, replace hose and connector.

The PODZILLA Hydraulic Hose replacement presents chemical splash hazards that could result in fire, burns, serious injury, or death. Please refer to the specific Job Hazard Analysis found in the Appendix.

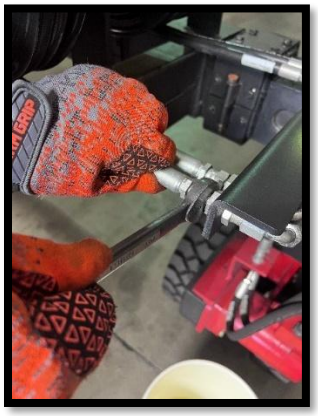
- Hazards to hands, eyes, and body:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - Replacement Hydraulic Hose w/Fittings
  - 1/2” Open-end or socket wrench for nylon bushing plate bolts
  - 7/8” Open-end wrench for hydraulic fittings
  - 11/16” Open-end wrench for hydraulic fittings
  - Chevron Clarity ISO32 hydraulic fluid (as needed)
  - Spill Container for hydraulic fluid run-off (a bucket)
  - Hydraulic Spill Kit
  - Safety Data Sheet (SDS) for specific hydraulic fluid

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Remove ignition sources.

Step 4 - Loosen the two connectors on the leaking hose. Using an open-end or crescent wrench to loosen the connector fittings. Have a container (bucket) ready to catch any hydraulic fluid spilled as the connector is loosened.



Step 5 - Remove the hose and replace it with a new hose.

Step 6 - Tighten the connectors to finger tight. Using the wrench, tighten ¼ turn. Be careful not to over-tighten the connectors or you will strain the metal and cause a leak at the connector.



Step 7 - Check hydraulic fluid tank level and replace any fluid lost during the changing of the hose.

Step 8 - Be sure to clean up any spilled hydraulic fluid using your Hydraulic Spill Kit.

Step 9 - Properly dispose of hydraulic fluid.

Job Hazard Analysis – Hydraulic Hose Replacement

Steps	Hazards	Controls
Remove ignition sources a minimum of 35 feet from the point of operation. Refer to the safety data sheet (SDS) for hydraulic fluid for additional hazards and controls.	Eye, skin irritation, pinch points, cuts, fire hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, fire safety procedures, appropriate fire extinguisher
Place spill container beneath the leaking hose. Loosen the two connectors on the leaking hose. Using an open wrench, loosen the connector fittings.	Eye, skin irritation, chemical splash, fire, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Remove the hose and replace it with a new hose.	Eye, skin irritation, chemical splash, fire, pinch points, cuts, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Tighten the connectors to finger tight. Use wrench and tighten ½ turn. Use caution to not overtighten the connectors. Overtightening may result in metal strain and create a leak at the connector.	Eye, cut hazards, pinch point	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Check hydraulic fluid tank level and replace any fluid lost during the changing of the hose.	Eye, skin irritation, chemical splash, fire, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Properly clean up and dispose of hydraulic fluid spills and waste.	Eye, skin irritation, chemical splash, fire, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher

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Hydraulic Pump Replacement

Important: Review the unbolting procedure in section 3; it may be necessary to remove entire motor as older units have no universal holes and the whole unit may need to be replaced.

The PODZILLA Hydraulic Pump replacement presents chemical splash hazards that could result in fire, burns, serious injury, or death. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands, eyes, and body:
  - PPE - Splash goggles or ANSI/ASSP Z-87.1 eye protection with face shield
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - 1” Open-end wrench
  - 7/8” Open-end wrench
  - 1-1/4” Open-end wrench
  - 9/16” Open-end wrench
  - 15” crescent wrench
  - Spill Containment
  - Safety Data Sheet (SDS) for hydraulic fluid

Step 1 - Refer to the specific Job Hazard Analysis found in the appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Remove ignition sources.

Step 4 - Disconnect the two hydraulic hoses that go to the pump (Use a common plastic restaurant dish reservoir to collect the hydraulic fluid (Have several dry cloths on hand to collect spillage).



Step 5 - Remove fittings from hydraulic pump

Step 6 - Unbolt the pump from the engine mounting plate

Step 7 - Remove the old or damaged pump.

Step 8 - Install fittings on the new pump.

Step 9 - Remove love-joy on old pump.

Step 10 - Install love-joy from old pump onto the new pump.

Step 11 - Align the love-joy on the new pump so nylon bushing fits securely.

Step 12 - Align love-joy on new pump with love-joy on motor.

Step 13 - Bolt the new pump in place.

Step 14 - Connect the hydraulic hoses to the new pump.

Step 15 - Check hydraulic fluid gauge and replace any fluid that is lost during this task.



Note: Be careful when tightening the hose connectors. Over tightening will result in metal strain which may cause the connector to break or leak.

Job Hazard Analysis – Hydraulic Pump Replacement

Steps	Hazards	Controls
Remove ignition sources a minimum of 35 feet from the point of operation. Refer to the safety data sheet (SDS) for hydraulic fluid for additional hazards and controls	Eye, skin irritation, pinch points, cuts, fire hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, fire safety procedures, appropriate fire extinguisher
Disconnect the two hydraulic hoses from the pump	Eye, skin irritation, chemical splash, fire, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Remove the fittings from the hydraulic pump	Eye, skin irritation, chemical splash, fire, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Unbolt the pump from the engine mounting plate	Eye, skin irritation, chemical splash, fire, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Remove the old or damaged pump	Eye, skin irritation, chemical splash, fire, pinch points, cuts, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher, safe lifting procedures
Install fittings on the new pump	Eye, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt

Remove love-joy on old pump	Eye, skin irritation, chemical splash, fire, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Install love-joy from old pump onto the new pump	Eye, skin irritation, chemical splash, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt
Align the love-joy on the new pump so nylon bushing fits securely	Eye, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt
Align love-joy on new pump with love-joy on motor	Eye, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt
Bolt the new pump in place	Eye, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt
Connect the hydraulic hoses to the new pump	Eye, skin irritation, chemical splash, fire, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Check the hydraulic fluid gauge and replace any fluid that was lost during task	Eye, skin irritation, chemical splash, fire, pinch points, cuts	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher
Clean up and dispose of spilled and waste/hydraulic oil	Eye, skin irritation, chemical splash, fire, environmental	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, spill containment, fire safety procedures, appropriate fire extinguisher

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Nylon Wear Disc Replacement

Each of the six (two horizontal spreader and four leg) spreader housings contain eight nylon wear discs. If they are quite worn, you will notice a lot of play in the leg when you operate the lift. All four sides of each of the outer housings have cover plates, with two wear discs under each plate.

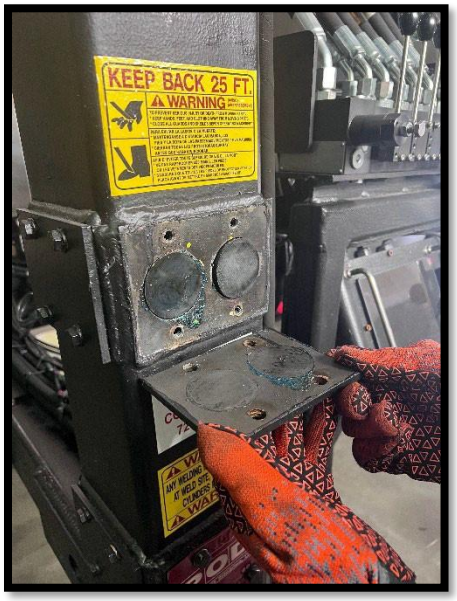
The PODZILLA Nylon Wear Disc replacement presents eye, pinch point, and crushing hazards. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands and eyes:
  - PPE - ANSI/ASSP Z-87.1
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - 9/16" Open-End or socket wrench and ratchet
  - Electric Drill
  - ¼" Drill Bit
  - Replacement Wear Disc

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Remove the four 9/16" bolts in the cover plate.





Step 4 - Remove the cover plate to expose the wear discs.

Step 5 - Using a drill with a ¼" bit, drill straight into the disc approximately ¼" to ½."

Step 6 - With the bit still lodged in the disc, pull on the drill to extract the nylon disc from the housing.

Step 7 - Insert the new discs.

Step 8 - Replace the cover plate. If the cover plate is bent, it will also have to be replaced.

Step 9 - Secure the cover plate with the four 9/16" bolts.

Step 10 - Repeat the steps for the other three sides of the housing.

Step 11 - Repeat all the steps for each of the other spreader housings.

Step 12 - Operate the spreaders to ensure the spreaders function properly.

Job Hazard Analysis – Nylon Disc Replacement

Steps	Hazards	Controls
Remove the four 9/16" bolts in the cover plate	Eye, pinch points, cut hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt
Remove the cover plate to expose the wear discs	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Using a drill with a ¼" bit, drill straight into the disc approximately ¼" to ½"	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
With the bit still lodged in the disc, pull on the drill to extract the nylon disc from the housing	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Replace the cover plate. If the cover plate is bent, the cover plate will need to be replaced.	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Secure the cover plate with the four 9/16" bolts	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Repeat the previous steps for the other three sides of the housing	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Repeat all of the steps for each of the other spreader housings	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Operate and test the spreaders to ensure the spreaders are operating properly	Eye, pinch points, cut hazards, crushing hazard	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots

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Replacing the Drive Axle Assembly

The PODZILLA Drive Axle Assembly replacement presents eye, pinch point, and crushing hazards. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands and eyes:
  - PPE – ANSI/ASSP Z-87.1 eye protection
  - PPE – Leather gloves
  - PPE – Long sleeve shirt
  - PPE – Steel toed boots
- Tools Required for Task:
  - 13/16” socket and ratchet with 3/8” extension
  - (2) 3/4” open-end wrench
  - 13/16” open-end wrench
  - 7/8” open-end wrench
  - Jack Stand



Step 1 - Refer to the specific Job Hazard Analysis found in the appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Raise leg on lift that corresponds to the drive assembly that needs to be replaced and remove both tires. Place Jack Stand underneath the lift for support.

Step 4 - Remove drive chain using Drive Chain Replacement procedure.

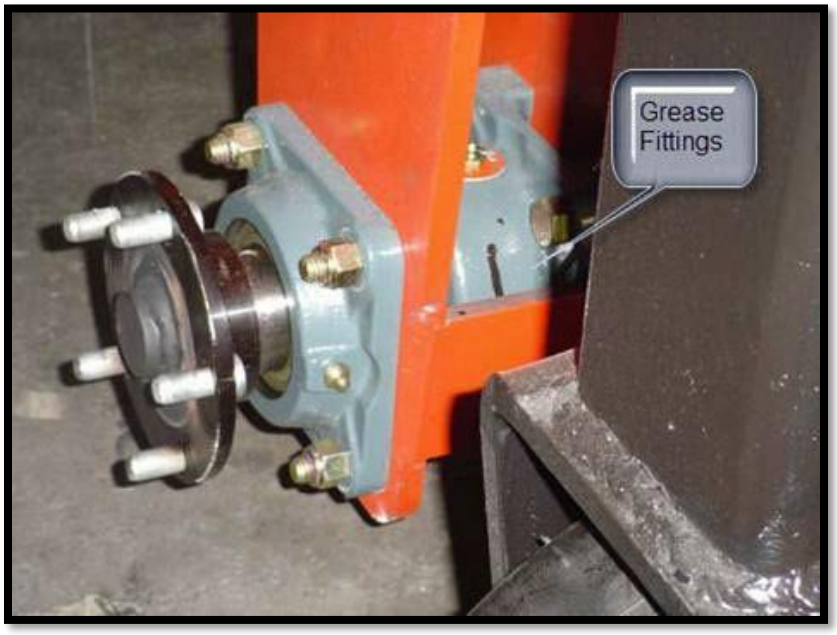
Step 5 - Remove bolts from small bearing using 2-3/4” open- end wrenches, one on either side of the bolt.

Step 6 - Remove drive chain using Drive Chain Replacement procedure.

Step 7 - Remove bolts from large bearing using 2-¾” open ended wrenches

BE CAREFUL THE DRIVE ASSEMBLY DOES NOT FALL FROM LIFT.

Step 8 - Before installing new drive assembly, ensure the grease fitting on the large bearing is either facing up or down. The grease fitting on the small bearing should be facing away from the motor section or the lift



Step 9 - Install bolts on large bearing first with the bolt heads on the inside of the assembly and the nuts on the outside. If the bolts to the small bearing are installed first, there will not be enough clearance to install large bearing bolts.

Step 10 - Install bolts on small bearing with the bolt heads on the inside of the assembly and the nuts on the outside. Discard old Nyloc nuts and replace with new nuts.

Step 11 - Tighten bolts.

Step 12 - Reinstall chain.

Step 13 - Reattach tires.

Step 14 - Remove Jack Stand.

Job Hazard Analysis – Replace the Drive Axle Assembly

Steps	Hazards	Controls
Raise the leg on lift that corresponds to the drive assembly that needs to be replaced. Place Jack Stand underneath the lift for support.	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Remove drive chain using the Drive Chain Replacement procedure found in the PODZILLA Maintenance, Inspection, and Repair Manual and JHA	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Remove bolts from small bearing using 2-3/4" open end wrenches, one on either side of the bolt	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Remove bolts from large bearing using 2-3/4" open end wrenches – USE CAUTION THAT THE DRIVE ASSEMBLY DOES NOT FALL FROM LIFT	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Before installing the new drive assembly, ensure the grease fitting on the large fitting is either facing up or down. The grease fitting on the small bearing should be facing away from the motor section or the lift	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Install bolts on the large bearing first with the bolt heads on the inside of the assembly and the nuts on the outside. If the bolts on the small bearing are installed first, there will not be enough clearing to install the large bearing bolts	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Install bolts on small bearing with the bolt heads on the inside of the assembly and the nuts on the outside	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat

Tighten bolts	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Reinstall chain	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat
Reattach tires	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat, safe lifting procedures
Remove Jack Stand	Eye, pinch points, cut hazards, struck-by, crushing, caught-in-between, ergonomic hazards	Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z-89.1 Hard hat, safe lifting procedures

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Walvoil Valve Replacement

The Wavloil valve contains two main hoses that feed hydraulic fluid into and out of the hydraulic bank. Each valve causes a ram inside the spreader or vertical housing to retract or expand. Operating a control from the bank opens the Walvoil valves so they may be accessed for repair. Usually, the entire bank is replaced, even if a single valve is faulty.

The Walvoil replacement presents eye and pinch point hazards. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to hands and eyes:
  - PPE - Chemical Splash goggles or ANSI/ASSP Z-87.1 eye protection with a face shield.
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots
- Assemble Tools Required for Task:
  - 11/16" Open-end wrench
  - 7/8" Open-end wrench
  - 9/16" Open-end wrench
  - 2-½" Open-end wrench
  - Spill Containment
  - Hydraulic Fluid Spill Kit

Step 1 - Refer to the specific Job Hazard Analysis found in the appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Refer to the Safety Data Sheet (SDS) for hydraulic fluid.

Step 4 - Disconnect all hose connectors attached to the bank.

Step 5 - Mark each hose line from bank to ensure the proper connection when assembling new valve bank.

Step 6 - Remove fittings from valve.

Step 7 - Bolt a new bank to the valve bank tree.

Step 8 - Reinstall hose fittings to valve, O-ring side down.

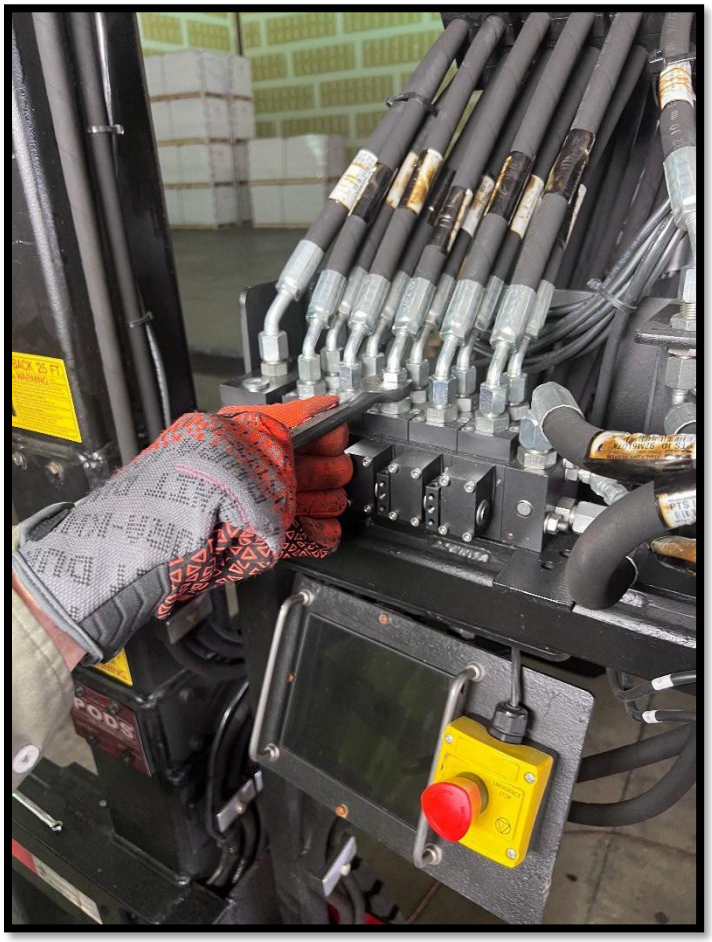
Step 9 - Remove the 3-7/16" bolts from valve using 2-½" open-end wrenches.

Step 10 - Reconnect hoses to correct valves.

Step 11 - Check hydraulic fluid gauge and replace any hydraulic fluid that is lost during this task. Be sure to clean up any spilled hydraulic fluid using your Hydraulic Spill Kit.

Step 12 - Dispose of hydraulic fluid properly.

NOTE: Be careful when tightening the connectors. If you tighten them too much, you will strain the metal and the connector may break or leak.



Job Hazard Analysis – Walvoil Valve Replacement

Steps	Hazards	Controls
Refer to the safety data sheet (SDS) for hydraulic fluid for specific hazards and controls May require Hot Work Permit	Eye, skin irritation, burn, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Place appropriate spill container underneath bank. Disconnect all hose connectors attached to the bank	Eye, skin irritation, pinch points, cut hazards, burns, fire, environmental considerations	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Mark each hose line from bank to ensure the proper connection when assembling new valve bank	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots
Remove fittings from valve	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Remove the 3 – 7/16” bolts from valve using 2-1/2” open end wrenches	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Bolt a new bank to the valve bank tree	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Reinstall hose fitting to valve, O-ring side down	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Reconnect hoses to correct valves	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions.

Check hydraulic fluid gauge and replace any hydraulic fluid that was lost during the task	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Clean up and dispose of spilled hydraulic fluid and waste using spill kit	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

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Hardline Repair Procedure

The Hardline Repair procedure presents hazards that could result in serious injury to eyes, face, hands, arms, and body. Please refer to the specific Job Hazard Analysis found in the Appendix.

- Hazards to eyes, hands, and body
  - PPE - ANSI/ASSP Z-87.1 eye protection
  - PPE - Welder's helmet or welder's goggles
  - PPE - Leather gloves
  - PPE - Long sleeve shirt
  - PPE - Steel toed boots

To properly repair the Hardline on the PODZILLA lift, the following steps should be followed:

Step 1 - Refer to the specific Job Hazard Analysis found in the Appendix for identified hazards and controls.

Step 2 - Don required PPE.

Step 3 - Refer to the Safety Data Sheet (SDS) for hydraulic fluid.

Step 4 - Render the area safe for Hot Work. A Hot Work permit may be required.

Common signs of hydraulic leak in PODZILLA side rail.



Inside rail cap view with 1-inch holes.



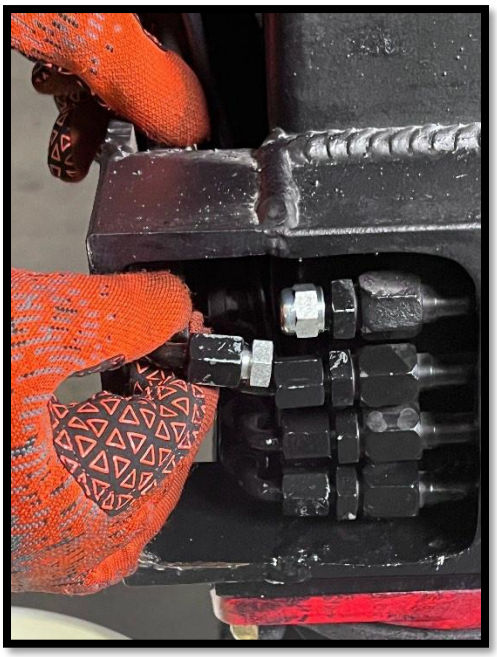
Step 5 - Use a 13/16” open-end wrench in combination with an 11/16” wrench to prevent twist damage to fittings.



Step 6 - Remove fitting with 11/16” open-end wrench.

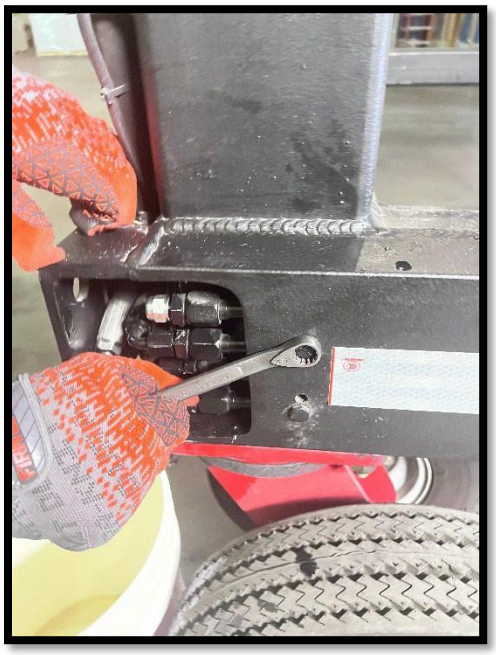


Step 7 - 3/8" caps and plugs should be used to reduce oil leakage.



Step 8 - Remove both double tubing blocks, one at each end of rail.





Step 9 – Using a Sawzall, cut off hydraulic adaptors.



Step 10 – Using a Sawzall, cut off hydraulic adaptors at other end of the main rail.



Step 11 - Insert cut end through 1" holes and pull completely out.



Step 12 - Install new ½ .049 wall seamless tubing. Slide fittings on while tubing end is visible in window.



Step 13 - Fittings installed.



Step 14 - Push tubing through 1" holes.



Step 15 - Use proper flaring tool to flare tubing.



Step 16 - Tubing with flaring completed.



Step 17 - Slide tubing back and repeat flaring steps at other end of rail.



Step 18 - Assemble adaptor fittings and hose fittings.



Step 19 - Tighten all fittings.





Step 20 - Assemble hose block and slide into position.



Step 21 - Install hose block hardware.



Job complete!



Final Checks

a. Start engine on low idle
b. Check for any signs of leaks
c. Test all functions
d. Pressure wash lift and monitor for possible leaks

Job Hazard Analysis – Hardline Repair Procedure

Steps	Hazards	Controls
Refer to the safety data sheet (SDS) for hydraulic fluid for specific hazards and controls May require Hot Work Permit	Eye, skin irritation, burn, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Place appropriate spill container underneath rail end cap Place marks on rail end cap parallel with hydraulic tubing	Eye, skin irritation, pinch points, cut hazards, burns, fire, environmental considerations	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Drill 3/8” pilot holes at each marked location	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots
Place a piece of metal in front of the fittings to prevent damage. Chase through the 3/8” holes with a 1-inch drill bit	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Use a 13/16” open end wrench in combination with an 11/16” wrench to prevent twist damage to fittings	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Remove fitting with 11/16” open end wrench	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
3/8” caps and plugs can be used to reduce oil leakage	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Remove both double tubing blocks, one at each end of rail	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Remove double tubing block	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Cut off hydraulic adaptors on both ends using saw	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Insert cut end through previously drilled holes and pull completely through	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Install new ½ 0.049 wall seamless tubing. Slide fittings on while tubing end is visible in window	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Push tubing through pre-drilled holes	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Use proper flaring tool to flare tubing	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Slide tubing back and repeat flaring steps at the other end of rail	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Assemble adaptor fittings and hose fittings	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Tighten all fittings	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Assemble hose block and slide into position	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.
Install hose block hardware	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

Clean up spills and waste hydraulic fluid using spill kit and properly dispose	Eye, skin irritation, pinch points, cut hazards, burns, fire	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or splash goggles, long sleeve shirt, steel toed boots, fire safety precautions. Remove ignition sources and combustible materials a minimum of 35 feet from the point of operation. Appropriate fire extinguisher must be present.

This Job Hazard Analysis identifies general hazards and recommended controls. This Job Hazard Analysis is not a replacement or substitute for site-specific hazard identification, risk assessments, and controls. Users are recommended to conduct their own hazard identification, risk assessments, and controls as part of a comprehensive safety, health, and environmental program. The use of this Job Hazard Analysis does not imply that all hazards or controls have been identified.

Spreader Cylinder Repair & Replacement Procedure

Important Notes & Personal Protective Equipment (PPE)

Minimum Personnel: Two-person team required.

Mandatory PPE:

- ANSI/ASSP Z87.1-compliant eye protection
- Welder's helmet or goggles
- Leather gloves
- Long-sleeve shirt
- Steel-toe boots

Optional PPE:

- Leather apron
- Full face shield

Preparation & Safety Precautions

1. Review the Job Hazard Analysis (JHA).
2. Don all required PPE prior to beginning work.
3. Review the Safety Data Sheet (SDS) for hydraulic fluid.
4. Prepare the work area: remove combustible materials within a 35 ft radius; keep a fire extinguisher readily accessible; obtain a hot work permit if required.

Required Tools & Equipment

- Spreader Cylinder Special Tool Assembly with hydraulic access
- Forklift
- Large flat-blade screwdriver or pry bar
- Drift pin Punch
- Ball peen hammer
- Snap ring pliers
- Hydraulic wrenches
- Rubber Tipped Air Gun
- Hydraulic line plugs and caps
- Absorbent pads for oil containment

Cylinder Removal Procedure

1. **Position the Unit:** Park the PODZILLA on a level surface. Fully lower and open the lift.
2. **Remove Cap Plates**: Remove both heavy-duty cap plates and all nylon wear discs from the outer spreader tube corresponding to the defective cylinder.
3. **Remove Inner Cylinder Pin:** Locate the inner spreader tube cylinder pin and snap ring assembly. Remove the snap rings, then use a drift pin and ball peen hammer to drive out the pin.



Inner Cylinder Pin Location

4. **Retract Cylinder Head:** Using the hydraulic controls, fully retract the cylinder head.
5. **Install Special Tool Assembly:** Disconnect the hydraulic hoses from the spreader cylinder and connect them to the special tool. Remove the cylinder fittings from the old cylinder and install the flush plugs supplied with the new cylinder into the old one.



Special Tool Assembly Installed



Installed Plugs in Old Cylinder

6. **Separate Spreader Tubes:** Extend the special tool's hydraulic cylinder to slide the inner tube free from the outer tube.



7. **Remove Outer Spreader Cylinder Pin:** Locate the outer cylinder pin and snap rings, then remove the outer cylinder pin (if not already removed). In some cases, outer spreader cylinder pin removal requires experienced torch operating skills. Damage may occur to pin boss if procedure is performed by non-qualified technician.





8. **Remove Old Cylinder:** Use a forklift to slightly lift the outer tube and slide the old cylinder out. Transfer plug fittings from the old unit to the replacement cylinder.



New Cylinder Installation

1. **Clean & Inspect:** Thoroughly clean the inner and outer spreader tubes. Remove grease, rust, and debris. Inspect both tubes for damage.



2. **Install Replacement Cylinder:** Using compressed air and a rubber tipped air gun, insert the rubber tip into fitting hole on the pressure side of the new cylinder and extend the rod end 8”-12”. Position the new cylinder inside the inner spreader tube. Apply anti-seize compound to the cylinder pin and install pin. Secure new pin with two snap rings.







3. **Realign Spreader Tubes:** Retract the special tool to bring the tubes together. Use a flat-blade screwdriver or pry bar if necessary to align them. Continue retracting until the inner tube is approximately 12" inside the outer tube.
4. **Disconnect Hydraulic Hoses from Special Tool:** Remove both hydraulic hoses from the special tool.
5. **Install Hydraulic Plugs:** Install plugs on both hydraulic hose fittings to prevent leakage.
6. **Retract Opposite Cylinder:** Using hydraulic controls, retract the opposite spreader cylinder to match the position of the newly installed one.

7. **Reconnect Hydraulic Hoses to Special Tool:** Reconnect both hydraulic hoses to the special tool. Retract both the special tool and the opposite cylinder until the new cylinder head is visible through the outer tube opening.
8. **Install Outer Cylinder Pin:** Install the outer cylinder pin and secure it with snap rings.
9. **Reconnect Hydraulics and Reassemble:** Remove the cargo strap, reconnect hydraulic hoses to the new spreader cylinder, and reinstall nylon wear discs and both heavy-duty cap plates.
10. **Final Inspection:** Check for hydraulic leaks, confirm proper spreading function, and verify hydraulic fluid level; top off as needed.

Completion

Repair procedure complete. Document the work performed in Whip Around and return equipment to service.

Job Hazard Analysis - Spreader Cylinder Repair

Applies To: All Podzilla units – each equipped with (2) Spreader Cylinders (Drive End and Caster End)

Approved Tools: Spreader Cylinder Special Tool Assembly (with hydraulic access), Forklift, Rubber-Tipped Air Gun, Standard Hand Tools, Hydraulic Caps/Plugs, Absorbent Pads

Personnel Required:

- Minimum two qualified technicians trained in Podzilla maintenance and this procedure
- Forklift operator must hold current OSHA-compliant forklift certification (29 CFR 1910.178)

Revision Justification

Each Podzilla contains two Spreader Cylinders (Drive End and Caster End). This procedure covers the replacement of a single cylinder at a time, depending on which end requires service. The previous method required splitting the frame and posed a tip-over hazard. This revised process uses the Spreader Cylinder Special Tool Assembly to separate and control the inner and outer tubes safely, with a forklift used only to support and slide the cylinder out as needed. The opposite cylinder remains connected throughout, maintaining full stability.

Job Hazard Analysis Table

Task Step	Hazard(s)	Controls / PPE
1. Review JHA and SDS for hydraulic fluid before work begins.	Chemical exposure, incomplete hazard awareness	Review JHA/SDS; ensure team trained; maintain spill kit & fire extinguisher nearby. PPE: eye protection, gloves, long sleeves, steel-toe boots.
2. Don PPE and prepare area (remove combustibles within 35 ft).	Fire, burns, hot-work hazards	Remove flammables; obtain Hot Work Permit if needed; maintain extinguisher nearby. PPE: gloves, long sleeves, welder's helmet if torching.
3. Park Podzilla on level surface, fully lower and open lift.	Unintended movement, unstable surface	Park on level ground; set brake; chock wheels. PPE: hard hat, steel-toe boots.
4. Remove cap plates and nylon wear discs from outer tube.	Pinch points, sharp edges	Use tools correctly; avoid hand placement between plates/tubes. PPE: gloves, eye protection.
5. Remove inner cylinder pin and snap rings using drift pin and hammer.	Flying debris, pinch points	Use proper pliers/hammer; maintain firm stance; avoid metal-to-metal contact near face. PPE: safety glasses, gloves.
6. Retract cylinder head using hydraulic controls.	Stored hydraulic energy	Operate controls slowly; keep clear of moving parts. PPE: gloves, eye protection.
7. Disconnect hydraulic hoses and connect to special tool.	Hydraulic fluid spray, pressure	Depressurize system; cap/plug lines immediately. PPE: face

		shield, gloves.
8. Extend special tool to separate inner and outer tubes.	Pinch points, uncontrolled motion, hydraulic failure	Extend slowly; maintain communication between techs; monitor for leaks. PPE: gloves, hard hat, safety glasses.
9. Remove outer cylinder pin (torch if required).	Flying debris, burns, hot-work hazard	Qualified tech only for torching; maintain fire watch & permit. PPE: welder's goggles, leather gloves, long sleeves.
10. Use forklift to slightly lift outer tube and slide old cylinder out.	Suspended load, crush hazard	Certified operator only; lift slowly; 10-ft exclusion zone. PPE: hard hat, gloves, steel-toe boots.
11. Transfer plug fittings from old to new cylinder.	Chemical exposure, pinch	Wipe residual fluid; use absorbent pads; handle tools carefully. PPE: gloves, eye protection.
12. Clean inner and outer tubes.	Chemical, sharp edges, debris	Use degreaser; wear gloves & eye protection; avoid air blowback. PPE: face shield, gloves.
13. Extend new cylinder rod 8–12 in using rubber-tipped air gun.	Pneumatic pressure, flying debris	Low air pressure only; hold cylinder securely; keep clear of rod path. PPE: face shield, gloves.
14. Insert new cylinder and install inner pin with anti-seize and snap rings.	Pinch points, chemical	Keep hands clear; use applicator for anti-seize. PPE: gloves, safety glasses.
15. Retract special tool to realign spreader tubes (~12 in insertion).	Pinch points, hydraulic failure	Communicate during retraction; keep hands off tube edges. PPE: gloves, safety glasses.
16. Disconnect hydraulic hoses from special tool and plug fittings.	Fluid leak/spill	Use absorbent pads; cap lines immediately; dispose per SDS. PPE: gloves, safety boots.
17. Retract opposite cylinder to match new one.	Stored hydraulic energy, movement	Operate slowly; keep clear of moving parts. PPE: gloves, eye protection.
18. Reconnect hydraulic hoses to special tool and retract until new cylinder head visible.	Pinch points, pressure release	Tighten connections before pressurizing; stand clear. PPE: face shield, gloves.
19. Install outer cylinder pin and secure snap rings.	Pinch points, flying debris	Use proper tools; verify rings fully seated. PPE: gloves, safety glasses.
20. Reconnect hydraulic hoses and reinstall wear discs/cap plates.	Hydraulic leak, pinch points	Tighten fittings; align components correctly. PPE: gloves, safety glasses.
21. Check for leaks and verify	Pressurized fluid, moving parts	Use cardboard to detect leaks;

spreading function.		stand clear of movement. PPE: gloves, face shield.

Additional Safety Controls
- Only OSHA-compliant, forklift-certified operators may operate powered industrial trucks (29 CFR 1910.178).
- Hot work requires authorization and fire watch per permit program.
- Maintain 10 ft exclusion zone around suspended loads and pressurized movements.
- Replace all pins, rings, and seals with new OEM parts only.
- Report any equipment defects immediately to Fleet Services.
- All completed Spreader Cylinder repairs must be documented in Whip Around before returning the Podzilla to service.

Personal Protective Equipment (PPE) Summary
- ANSI/ASSP Z-87.1 Eye Protection (plus face shield for hydraulic disconnects)
- Leather or nitrile gloves (chemical and cut resistant)
- Long-sleeve cotton work shirt or coveralls
- Steel-toe safety boots
- ANSI/ASSP Z-89.1 Hard Hat
- Hearing protection when operating engine or air tools

Disclaimer
This Job Hazard Analysis identifies general hazards and recommended controls for the Spreader Cylinder Repair & Replacement Procedure. It is not a substitute for site-specific risk assessments or safe-work planning. Personnel must conduct their own hazard identification and risk evaluation as part of PODS' comprehensive Safety, Health, and Environmental Program.

Leg Cylinder Replacement

Tools/Materials

- 15/16” wrench
- 15/16” socket
- ¾” wrench
- Snap Ring Plyers
- Tapered Pin Punch
- Leg Cylinder Air Actuation Tool
- Air Compressor (30 PSI Max)
- (4) Approved Jack Stands
- Leg Cylinder Lifting Device
- Leg Cylinder Lifting Ring
- Forklift
- Pressure Washer

This is a minimum two-person procedure!

Step 1 – Install (4) Approved Jack Stands to support the PODZILLA main rails at the correct height to gain access to the lower cylinder pin (Figure 1).



Figure 1

Step 2 - Remove the caster or drive frame assembly on the leg receiving the new cylinder. Using the hydraulics, lower the inner leg tube until the wheel plate is fully on the ground (Figures 2 & 3).

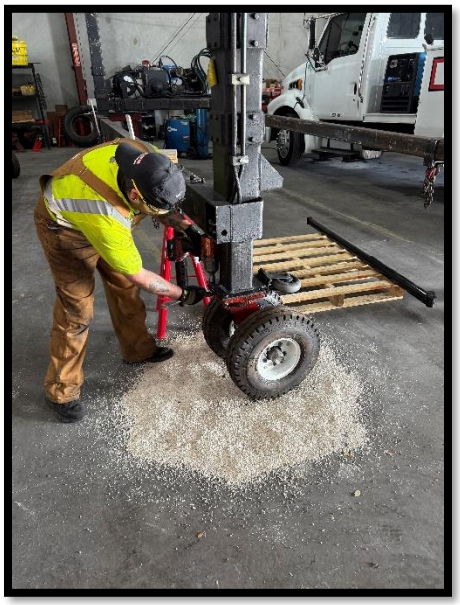


Figure 2

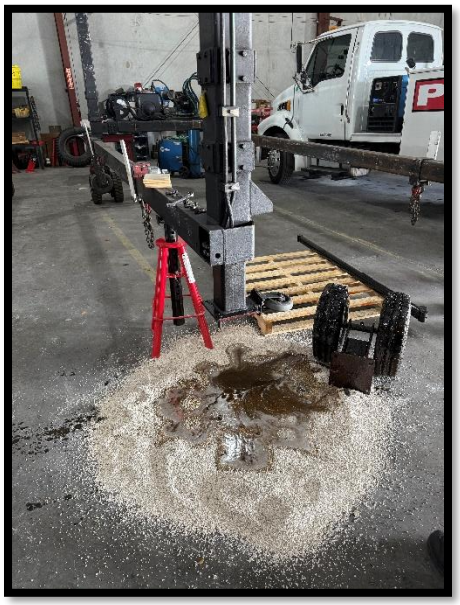


Figure 3

Step 3 - Remove lower snap rings from the lower leg pin. (Figure 4).



Figure 4

Step 4 - Using the tapered pin punch, remove the lower leg pin (Figure 5).



Figure 5

Step 5 - Using the hydraulic control valve, completely retract the cylinder head.

Step 6 - Remove top cap. On older PODZILLA models, you will need to cut the weld holding the leg top cap in place (Figure 6 & 7).



Figure 6



Figure 7

Step 7 - Using the Forklift and the Leg Cylinder Lifting Device, position the device directly over the leg cylinder. (Figure 8) Attach the Cylinder Lifting Ring by screwing the ring into the cap end of the Cylinder (Figure 9) If the cylinder is an old-style cylinder and does not have a threaded hole at the cap end, you will need to drill and tap the cylinder to receive the Cylinder Lifting Ring. Apply light tension to the Lifting Device.



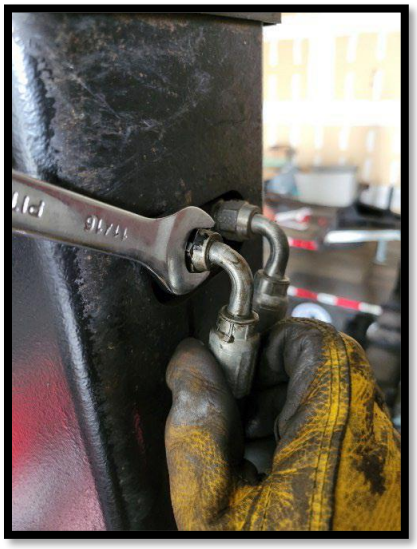
Figure 8



Figure 9

Step 8 - Remove hydraulic pressure by operating the control valves with engine in the OFF position. Remove the hydraulic lines from the top of the leg and cap the lines.

Step 9 - Remove the hydraulic fittings on the leg cylinder and insert plugs. Some hydraulic fluid may leak from the cylinder (Figures 10 & 11).



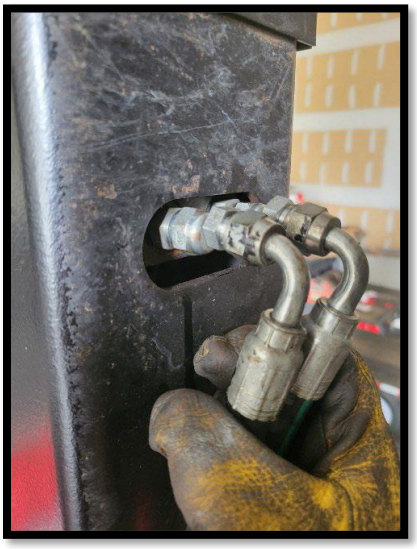


Figure 10 Figure 11

Step 10 - Remove the upper snap rings and upper cylinder pin (Figure 12).



Figure 12

Step 11 - Slowly raise the forklift forks to lift the cylinder out of the leg tube (Figure 13).



Figure 13

Step 12 - Attach the Cylinder Lifting Ring to the top of the new cylinder. Using the Cylinder Lifting Device, raise the cylinder above the leg tube opening and slowly lower the cylinder into the leg tube until there is approximately 12” of cylinder showing above the leg top.

Step 13 - Attach the air actuation tool to the cylinder hydraulic fittings and apply regulated compressed air (not to exceed 30 psi) to extend the cylinder rod until it reaches the inner leg tube pin boss (Figure 14). This method eliminates the need for hydraulic hose extenders and reduces the risk of hydraulic fluid exposure and slip hazards.

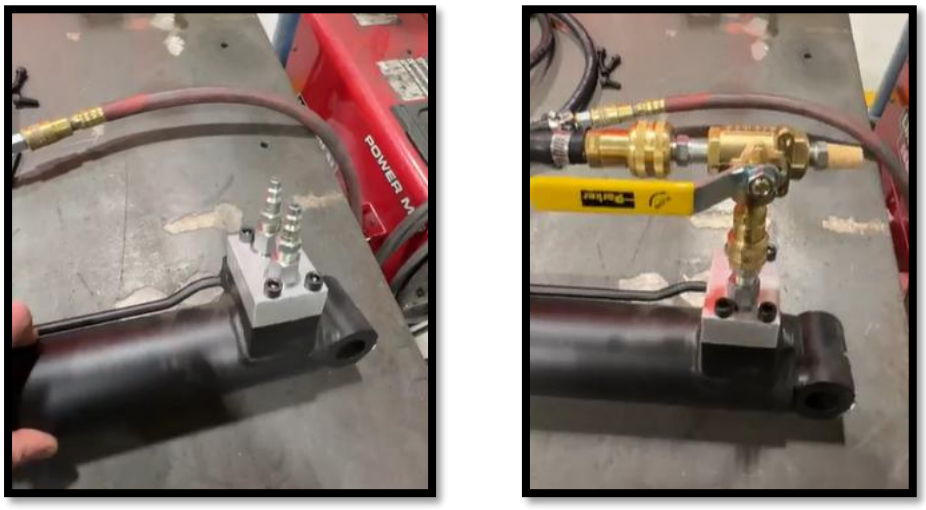


Figure 14.

Step 14 - Using the tapered pin punch, align the cylinder head with the lower cylinder pin boss and install the lower cylinder pin and snap rings (Figure 15).

CAUTION: NEVER MANUALLY LIFT THE INNER LEG TUBE TO ALIGIN THE CYLINDER ROD END. DOING SO COULD LEAD TO SERIOUS INJURY!



Figure 15

Step 15 - Using the forklift, finish lowering the cylinder into the leg tube until the upper cylinder pin hole lines up with the upper pin boss. Install upper cylinder pin and snap rings (Figures 16).



Figure 16

Step 16 - Reinstall hydraulic fittings and lines.

Step 17 - Using the hydraulic controls, lift the inner leg tube to install the caster assembly or drive frame assembly.

Step 18 - Pressure wash PODZILLA to remove hydraulic fluid which leaked during the repair.

Job Hazard Analysis – Leg Cylinder Replacement

Steps	Hazards	Controls
Install Jack Stands to support the PODZILLA main rails at the correct height to gain access to the lower cylinder pin	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Remove the caster or drive frame assembly on the leg receiving the new cylinder. Using the hydraulics, lower the inner leg tube until the wheel plate is fully on the ground.	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Remove lower snap rings from the lower leg pin	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Using the tapered pin punch, remove the lower leg pin	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots
Using the hydraulic control valve, completely retract the cylinder head	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots

Remove the top cap **NOTE: ON OLDER PODZILLA MODELS, THE WELD HOLDING THE LEG TOP CAM IN PLACE WILL NEED TO BE CUT**	Eye, skin irritation, struck-by, caught-in-between, pinch points Eye, skin irritation, burn hazards, fire, pinch points, struck-by, cut hazards to hands	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots Leather gloves, ANSI/ASSP Z-87.1 eye protection with a face shield or welder's helmet or welder's goggles, leather apron, long sleeve shirt, steel toed boots. Ensure appropriate fire extinguisher is available and fire safety precautions are utilized. Combustible materials must be moved a minimum of 35 feet from the source of ignition. A hot work permit may be required
Using the Forklift and the Leg Cylinder Lifting Device, position the device directly over the leg cylinder. (Fig. 8) Attach the Cylinder Lifting Ring by screwing the ring into the cap end of the Cylinder (Fig.9) If the cylinder is an old-style cylinder and does not have a threaded hole at the cap end, you will need to drill and tap the cylinder to receive the Cylinder Lifting Ring. Apply light tension to the Lifting Device.	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area

Remove the hydraulic pressure by operating the controls valves with the engine in the OFF position. **Remove the hydraulic lines from the top of the leg and cap the lines**	Eye, skin irritation, struck-by, caught-in-between, pinch points, burn hazards Refer to the Safety Data Sheet (SDS) for Hydraulic Fluid for additional hazards and controls	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or chemical resistant splash goggles, long sleeve shirt, steel toed boots Ensure appropriate fire extinguisher is available and fire safety precautions are utilized. Combustible materials must be moved a minimum of 35 feet from the source of ignition
Remove the hydraulic fittings on the leg cylinder and insert plugs. **NOTE: Hydraulic fluid may leak from the cylinder**	Eye, skin irritation, struck-by, caught-in-between, pinch points, burn hazards Refer to the Safety Data Sheet (SDS) for Hydraulic Fluid for additional hazards and controls	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or chemical resistant splash goggles, long sleeve shirt, steel toed boots Ensure appropriate fire extinguisher is available and fire safety precautions are utilized. Combustible materials must be moved a minimum of 35 feet from the source of ignition
Remove the upper snap rings and upper cylinder pin	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat
Slowly raise the forklift forks to lift the cylinder out of the leg tube	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area

Attach the Cylinder Lifting Ring to the top of the new cylinder. Using the Cylinder Lifting Device, raise the cylinder above the leg tube opening and slowly lower the cylinder into the leg tube until there is approximately 12" of cylinder showing above the leg top.	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area
Attach the (2) 3/8" Hose Extenders to the (2) hydraulic leg hoses and attach the other ends to the new cylinder fittings. Using the hydraulics, extend the cylinder rod end until it reaches the inner leg tube pin boss.	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area
Using the tapered pin punch, align the cylinder head with the lower cylinder pin boss and install the lower cylinder pin and snap rings **NEVER MANUALLY LIFT THE INNER LEG TUBE TO ALIGIN THE CYLINDER ROD END. DOING SO COULD LEAD TO SERIOUS INJURY!**	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area

Using the forklift, finish lowering the cylinder into the leg tube until the upper cylinder pin hole lines up with the upper pin boss **Install upper cylinder pin and snap rings**	Eye, skin irritation, struck-by, caught-in-between, pinch points	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area
Reinstall hydraulic fittings and lines	Eye, skin irritation, struck-by, caught-in-between, pinch points, burn hazards Refer to the Safety Data Sheet (SDS) for Hydraulic Fluid for additional hazards and controls	Use appropriate energy isolation procedure – i.e., Lockout/Tagout (LOTO) on control system. This work must be performed by an authorized person. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or chemical resistant splash goggles, long sleeve shirt, steel toed boots Ensure appropriate fire extinguisher is available and fire safety precautions are utilized. Combustible materials must be moved a minimum of 35 feet from the source of ignition
Using the hydraulic controls, lift the inner leg tube to install the caster assembly or drive frame assembly **Energy isolation – Lockout/Tagout may be removed**	Eye, skin irritation, struck-by, caught-in-between, pinch points	Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield, long sleeve shirt, steel toed boots, ANSI/ASSP Z89.1 hard hat Maintain a controlled access zone around the lifting area
Pressure wash the PODZILLA to remove hydraulic fluid which leaked during the repair	Eye, skin irritation, struck-by, caught-in-between, pinch points, burn hazards Refer to the Safety Data Sheet (SDS) for Hydraulic Fluid for additional hazards and controls	Utilize proper chemical spill procedures and kit. Leather gloves, ANSI/ASSP Z-87.1 eye protection with face shield or chemical splash resistant goggles, long sleeve shirt, steel toed boots

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Podzilla Disposal Procedure

- Tools/Materials
  - Oxygen Acetylene Torch or Heavy-Duty Plasma Cutter.
  - Sawzall with Bi-Metal Blade.
  - (2) 3” 5,400 LBS Working Load Limit Cargo Straps (Strapping Podzilla to Forklift).
  - (2) 3/8” 10’ 7,100 LBS Working Load Limit Lifting Chain (Lifting “H” Section).
  - (4) Cylinder Pin, Part # LST502.
  - Hydraulic Plugs and Caps to prevent cylinder drop and hydraulic spillage.
  - 30- or 40-Yard Dumpster (Will hold up to 4-5 Scrapped Podzillas).
  - Forklift
  - Miscellaneous hand tools.

This is a minimum two-person procedure and will require a minimum of 30’ clearance to maneuver the Forklift around Podzilla.

Step 1 - Depressurize, Drain and Purge all Hydraulic fluid from Podzilla (using the hydraulic pump if the engine is still operational or using pneumatic pressure to force the fluid from the hoses and hardlines.)

Step 2 – Strip Podzilla of all Salvageable and Non-Salvageable Parts, to include both caster assemblies and drive frames.

Step 3 – Remove all leg wear disc cap plates and wear discs.

Step 4 – Using a Sawzall, cut each upper cylinder pin on each side of the boss fitting, on all (4) Legs, allowing the leg cylinder to drop into the inner leg tube.



Step 5- Cut off the Power Rack from the outer spreader tube and place in Dumpster.



Step 6 – Using the Forklift, position the forks across both main rails. Install (2) 5,400 lbs Cargo Straps around the Forklift Cage and the furthest mail rail.

Cargo Straps are to keep Podzilla positioned on the forks and not for lifting the Podzilla.



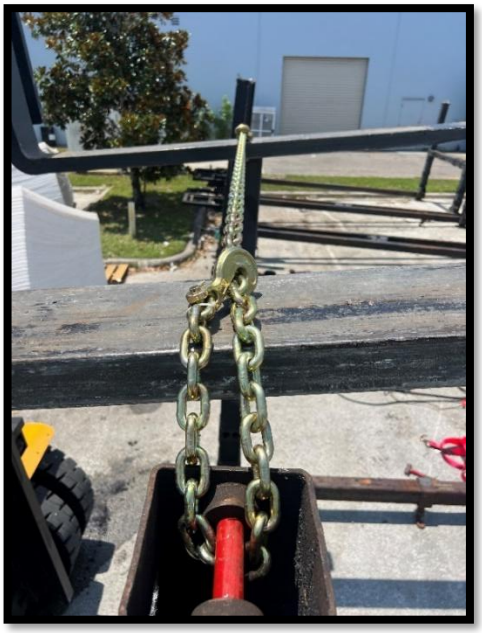
Step 7 – Using the forklift raise the Podzilla high enough to clear all (4) inner leg tubes. Place each inner leg tubes on the ground.



Step 8-Remove all (4) Leg Cylinders from inner leg tubes. (Cylinders may need to be disposed of separately depending on local restrictions)

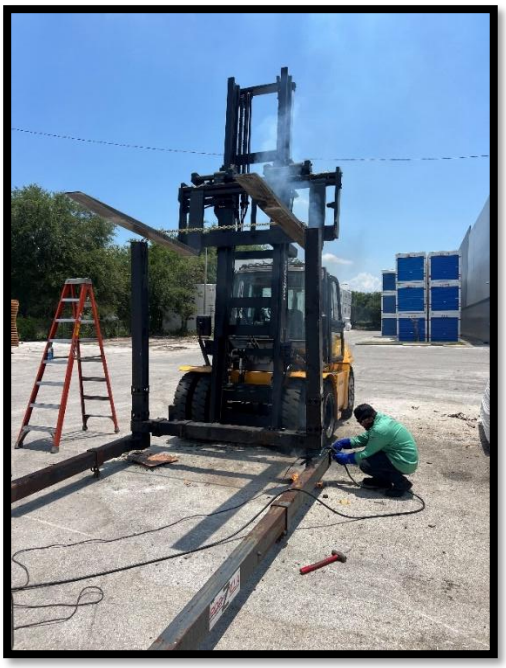
Step 9- Install one Cylinder Pin (Part # LST502) in each outer leg tube boss fitting.

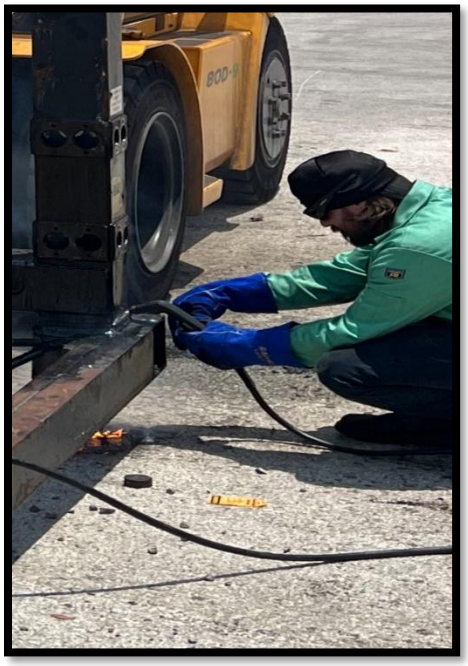
Step 10- Install one 3/8” 10’ 7,100 lbs. working load limit lifting chain to the top of each of the “H” Sections using the leg cylinder pin as the lifting points.



Step 11- Using the forklift, position the forks under the 3/8” 10’ 7,100 lbs. lifting chain that was installed on the Drive end “H” section. Lift the “H” section until the spreader wheel tubes are off the ground. Cut off both spreader wheel tubes and place them in the Dumpster.

Step 12- Leaving the forklift in the same position, cut the outer leg tubes on the drive end just above the main rail and below the outer spreader tube on both sides, disconnecting the “H” section from the main rails.





Step 13- With the forklift forks tilted back toward the cab of the forklift, back forklift away from the main rails and slowly lower the “H” Section to the ground.







Step 14- Cut both outer leg tubes in between the wear disc port plates on the “H” Section, dispose the 3 sections in the dumpster.



Step 15- Repeat Steps 12-14 for the Caster End “H” Section.

Step 16- Using the forklift, place all remaining sections into the dumpster.

Step 17-Submit the Asset Disposal Form (Non-Container) to fixedassetsaccounting@pods.com with a copy to cvillemaire@pods.com. Be sure to add pictures of the cut up Podzilla on the “Pictures” tab of the form.

REVISION HISTORY

Date	Version	Section	Change	Author
10/31/2023	1	Page 127; Spreader Cylinder Repair	Added language requiring minimum two-person procedure.	Robert Hollins
10/28/2024	1	All pages	Reformatting	Josh Bonanno
10/28/2024	1	Page 165-170	PODZILLA Disposal Procedures added	Joshua Bonanno
1/3/2025	1		Correct Leg Cylinder Replacement steps and updated photos.	Kara Delemeester Charlie Villemaire
1/7/2025	1		Fixed formatting and corrected steps on Hardline Repair Procedure.	Kara Delemeester
11/19/2025	1	Spreader Cylinder Repair	Replaced existing procedure with new "Spreader Cylinder Repair & Replacement" procedure & updated JHA.	Charlie Villemaire Kara Delemeester
2/26/2026	1	Updated Leg Cylinder Repair	• Added Snap Ring Pliers to required tools • Added Leg Cylinder Air Actuation Tool • Added air compressor requirement (**regulated to 30 PSI max**) • Added (4) approved jack stands • Removed (2) 3/8" hose extenders • Updated Step 13 to the pneumatic actuation method for improved safety • Updated Figures 1, 2, 3, and 14 to match new procedure	Charlie Villemaire