PROSERIES®

EZ-Tugger
Battery Handling Equipment

OWNER'S MANUAL

CE UK CA

EnerSys®
Power/Full Solutions

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INTRODUCTION

PROSERIES®

The information contained in this document is critical for safe handling and proper use of the EZ-Tugger. It contains a global system specification as well as related safety measures, codes of behavior, a guideline for commissioning and recommended maintenance.This document must be retained and made accessible to all users responsible for working with the battery handling equipment. Users are responsible for ensuring that all applications of the system are appropriate and safe, based on anticipated and encountered operating conditions.

This owner's manual contains important safety instructions. Read and understand the sections on safety and operation of the battery before operating the battery and the equipment into which it is installed.

It is the owner's responsibility to ensure the use of this documentation and all related activities comply with applicable legal requirements in their respective countries.

This owner's manual is not intended to substitute for any training on handling and operating the EZ-Tugger that may be required by local laws and/or industry standards. Proper instruction and training of all users must be ensured prior to any contact with the battery system.

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Your Safety and the Safety of others is Very Important

⚠ WARNING You can be killed or seriously injured if you don't follow these instructions.

SYMBOL IDENTIFICATION

UTE-XX-24-FM

Compartment Width (30 in; 36 in)
DC Voltage (V)
FM-Front Mount

Symbol Identification Chart

	Refer to accompanying documentation
	Do not operate without all guards and covers in place
	Entanglement Hazard – From chain, gear, or pulley
	Crush Hazard From Falling Load
	Eye Protection Required
	Slip Hazard
	Protective Clothing Required
	Refer to Manual
	Crush Hazard – Keep Hands Clear
	Pinch Point Hazard
	Crush Hazard – Keep Feet Clear
	Safety Shoes Required
	Heavy Object – Do not exceed the recommended load weight
	Rubber Gloves Required
	Face Shield Required

This manual contains important information to help you properly operate and maintain your EZ-Tugger for maximum performance, economy, and safety. By practicing correct operating procedures and by carrying out the recommended preventive maintenance suggestions, you will experience long, dependable, and safe service.

LABELS

Danger, Warning, Caution Labels

⚠ DANGER!

	Only certified operators should attempt to lift/carry loads with this unit. Keep the area under load clear when operating the unit.
	Do not attempt to pull loads over 2500 lbs. (1134 kg). Back injury or muscle strain may occur. Use care when operating on an incline.
	Do not attempt to operate this equipment if you are impaired (ill, under the influence of medication, alcohol, etc.). Errors in operation can cause hazardous and potentially LETHAL conditions.

⚠ CAUTION!

	The operating temperature range for the battery is from -20°C to +50°C. Do not use outside of the manufacturer's recommendations.

⚠ CAUTION!

	Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of batteries according to the manufacturer's instructions.

⚠ WARNING!

	Crush Hazard! Keep hands clear.

⚠ CAUTION!

	Pinch Hazard! Keep hands clear.

⚠ CAUTION!

	To reduce the risk of collision, ensure the unit is positioned for optimal visibility.
	Use care when transporting a load over wet floors/surfaces.
	Eye protection, safety shoes, and protective clothing are required when operating this equipment.

⚠ CAUTION!

	Do not operate without all guards, covers, and panels in place.

⚠ WARNING!

	Crush Hazard! Keep feet clear.

⚠ WARNING!

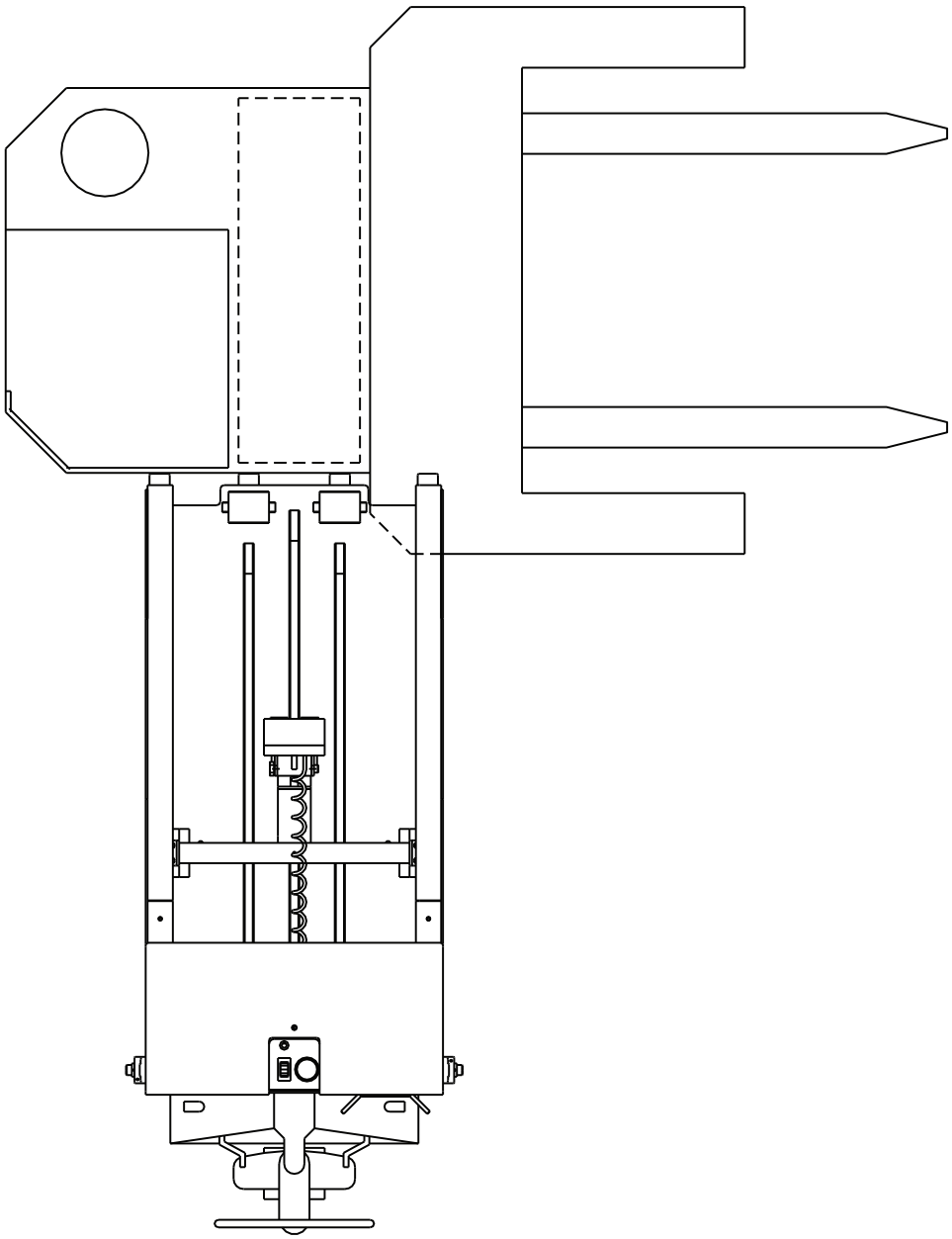
	Moving Parts! Keep hands and fingers clear.

⚠ CAUTION!

	Maintain correct polarity of battery terminals during replacement.

POSITIONING

EZ-Tugger and Lift Truck Positioning



Operating Instructions

Description:

The EZ-Tugger is a manually propelled, electrically powered battery changer, that is designed for low-volume applications and small to medium-sized batteries, such as those found in reach trucks, order pickers, and powered pallet trucks. Although the capacity of the EZ-Tugger is 2300 lbs (1043 kg), the handling of batteries at more than 2000 lbs (907 kg) becomes difficult and is not recommended.

Before operating the EZ-Tugger it is important that the operator thoroughly reviews and understands the proper Safety Procedures and Instructions as outlined in the Owner's Manual.

All operators must be trained or certified (if required) in the use of the EZ-Tugger.

Safety shoes, safety glasses, and protective clothing are mandatory in battery rooms. Be sure to wear them at all times. Rubber gloves, rubber aprons, and full face shields are required when washing and servicing forklift batteries. Always use **caution** and **common sense**.

Preparation:

1. Park the lift truck in a perpendicular position adjacent to the EZ-Tugger (EZ-Tugger and Lift Truck Positioning figure on page 6).
2. Prepare the lift truck for battery removal as follows:
   - Lower the forks until they sit flat on the floor.
   - Engage the parking brake.
   - Remove any protective covers.
   - Unplug the battery and position the connector plug and cable to prevent snagging or pinching during the battery removal process.
   - Remove the battery retaining gate.

Extraction from the Lift Truck

1. Position the Tugger in front of the battery compartment and lower the unit to the ground (EZ-Tugger and Lift Truck Positioning figure on page 6).

2. Power the magnet out until it contacts the battery to be removed. Then push and **HOLD** the magnet **ON** button. As you hold the magnet **ON** button, push the rocker switch back to pull the battery out, until it is just over the large white entry rollers on the Tugger.

3. Raise the Tugger until the rollers support the weight of the battery, and while **holding** the magnet **ON** button again, pull the battery into the Tugger.

4. Raise or lower the Tugger to the roller stand height, then press the rocker switch forward to push the battery out onto the roller stand.

Insertion into the Lift Truck:

1. Raise the Tugger to the roller stand level and retrieve the charged battery.
2. Position the Tugger in front of the lift truck battery compartment, and then raise or lower the battery to be **just slightly above** (approx. 1.27 cm) the level of the lift truck's roller or slider bed.
3. Press the rocker switch forward to push the battery as far as it will go into the lift truck.
4. If the Tugger pushes back before the battery is in, gently lower the Tugger to the floor, and while **still holding the lowering lever in the down position**, press the rocker switch forward to push the battery the rest of the way in.

Conclusion:

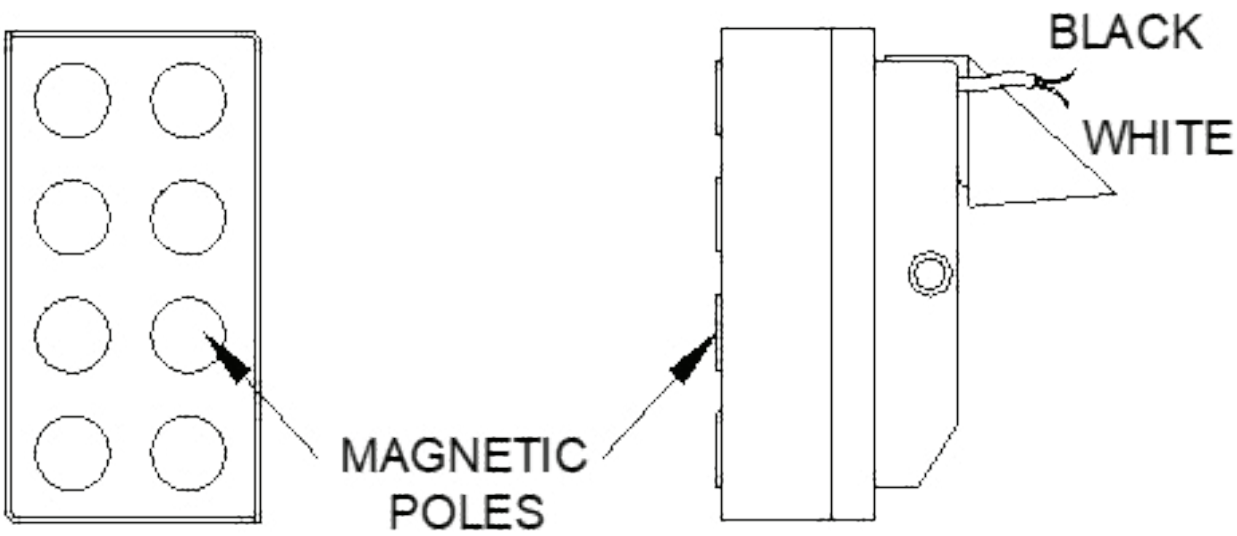
1. Pull the EZ-Tugger away from the lift truck and park it in a safe location.
2. Check the discharged battery, connect the cables, and turn on the charger.
3. Prepare the lift truck for operation as follows:
   - Install the battery retaining gate
   - Plug in the battery
   - Install the protective covers
   - Check the battery indicator gauge

Electromagnet Maintenance

Electromagnets require very little maintenance to provide a long useful life. Daily use of a shop towel to wipe the magnet face free of debris, grease, oil, or other foreign matter will ensure years of service life and thousands of safe operations.

The pulling capacity is greatly reduced when the face of the magnet is dirty. Use care when handling the magnet so as not to nick or mar the pulling surface. If the face is heavily worn, lightly surface grind a few thousandths of an inch off the face to clean up the pulling surface.

Never try to remove the electrical wires mounted in the magnet. Should you do this, you will destroy the magnet, and it will require rebuilding or replacement.



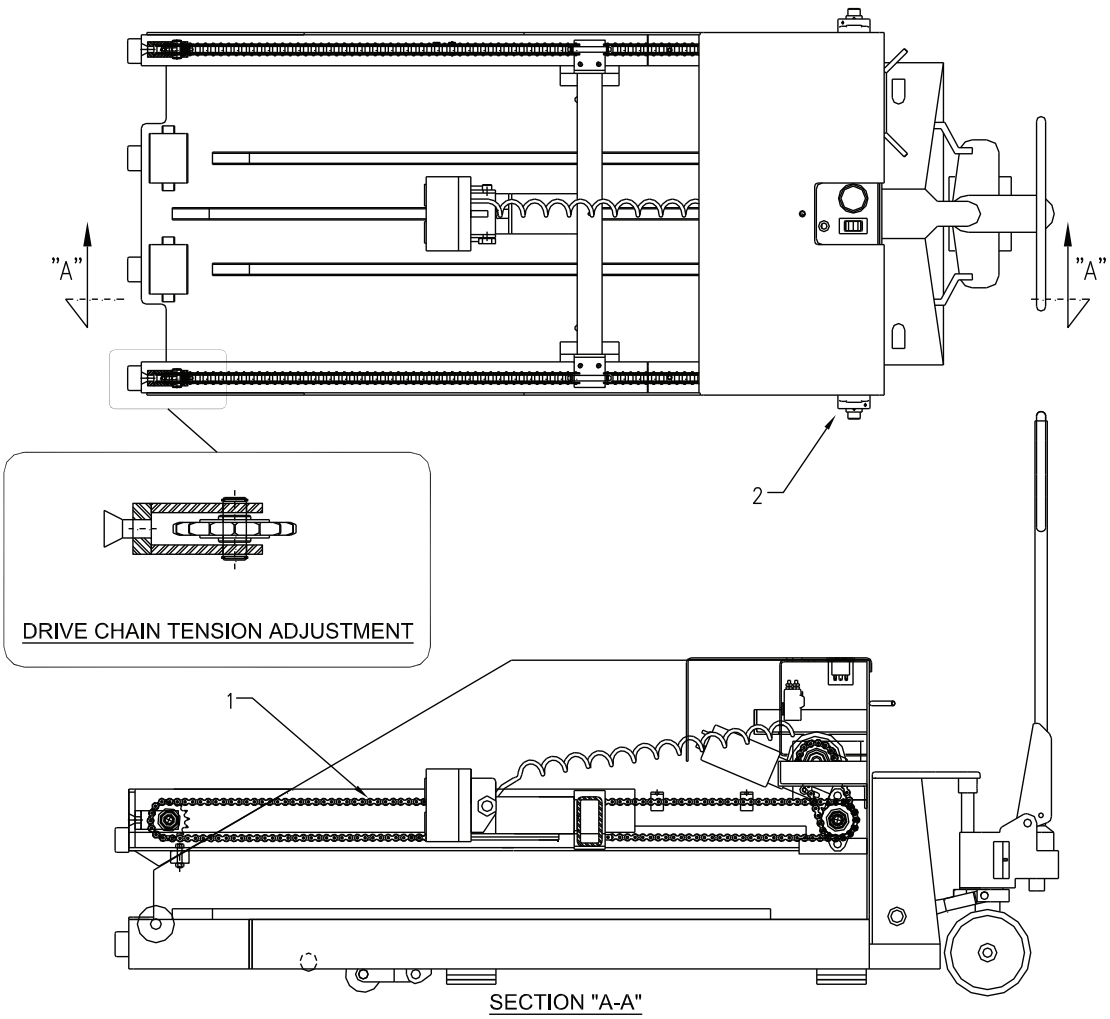
Drive Mechanism Maintenance

Item	Grease Points	# Points	Lubricant	Frequency
1	Drive Chain	3	TEF-LUBE 2000	Monthly
2	Bearing	2	'Rotanium' Blue Grease	2 Months

ATTENTION:

- Check monthly and tighten any bolts that have become loose.
- Check drive chain tension. There should be no more than 1.27 cm of deflection.
- See drive Chain Tension Adjustment inset below.
- If excessively slack, remove one full link or 1/2 link and reset tension.

If the chain is badly worn or stretched, replace it.

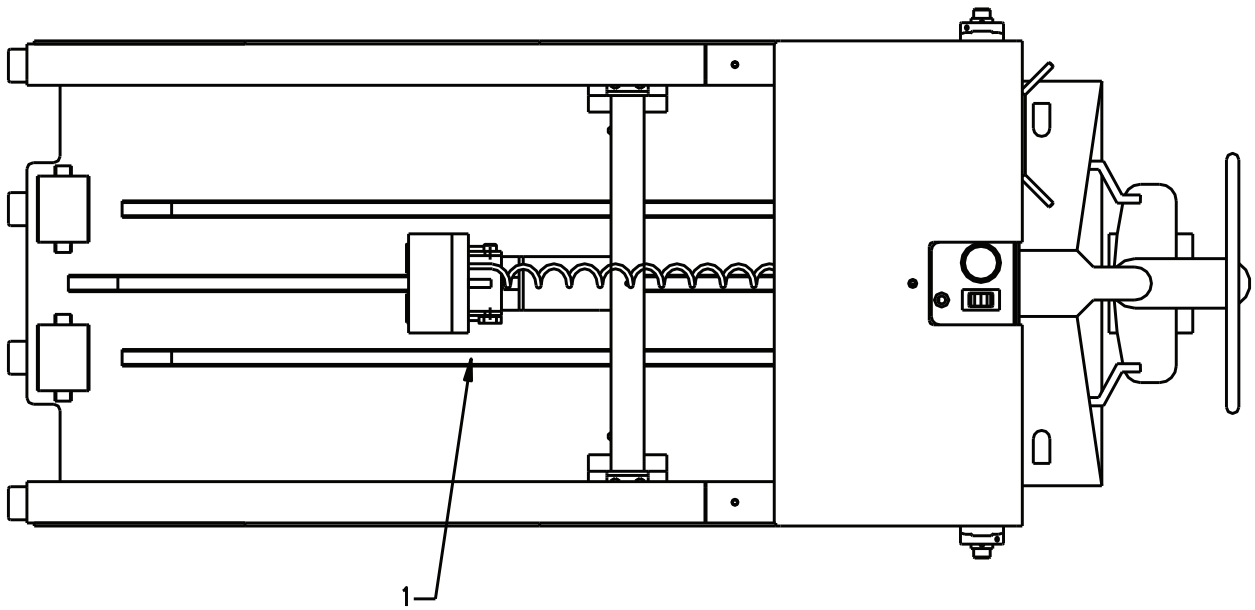


Slider Strip Maintenance

The three (3) slider strips (**Number 1**) on the floor of the **Battery Tugger** will require regular maintenance to provide long and useful service (weekly).

Wipe the top of the slider strips to remove debris, grease, oil, and any other foreign material. This will reduce the friction and ensure a long service life with thousands of safe operations.

If the slider strips are heavily worn, replace them. To do this, bend the Slider Strip Channel out and slide the plastic Slider Strip out. Slide the new Slider Strip into the Slider Strip Channel and bend the channel closed to keep the strip in place.

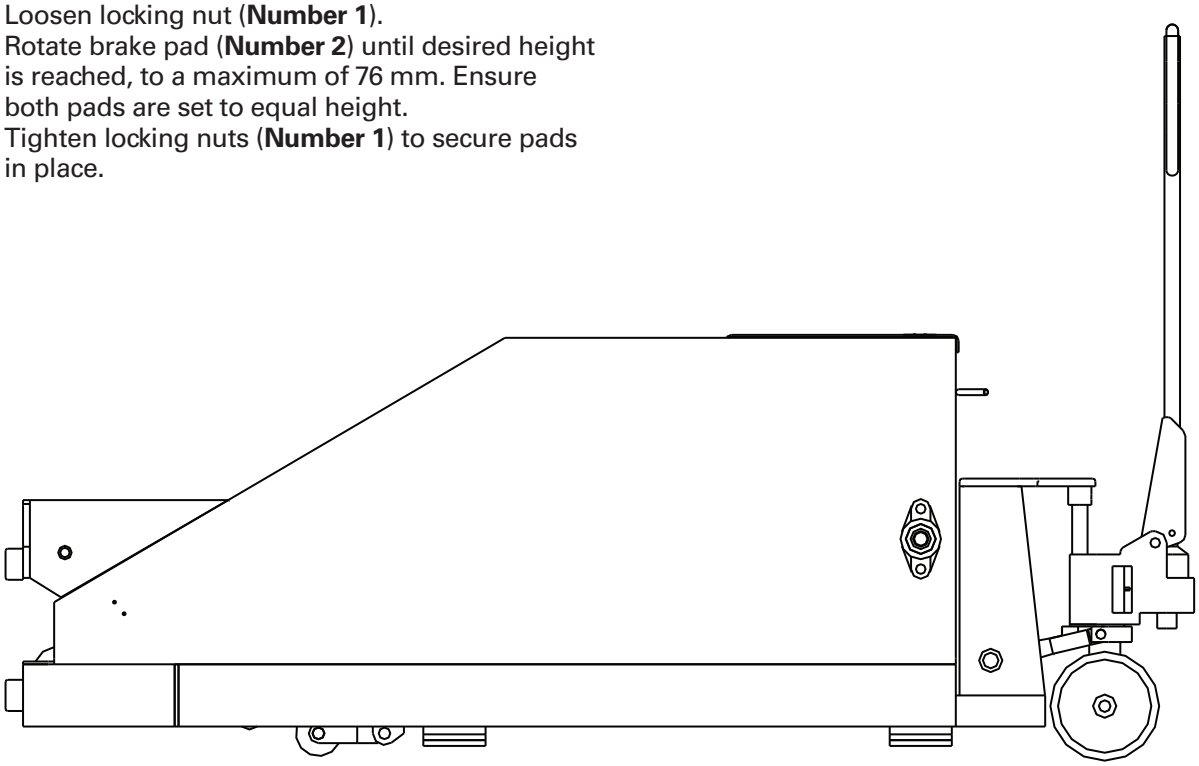


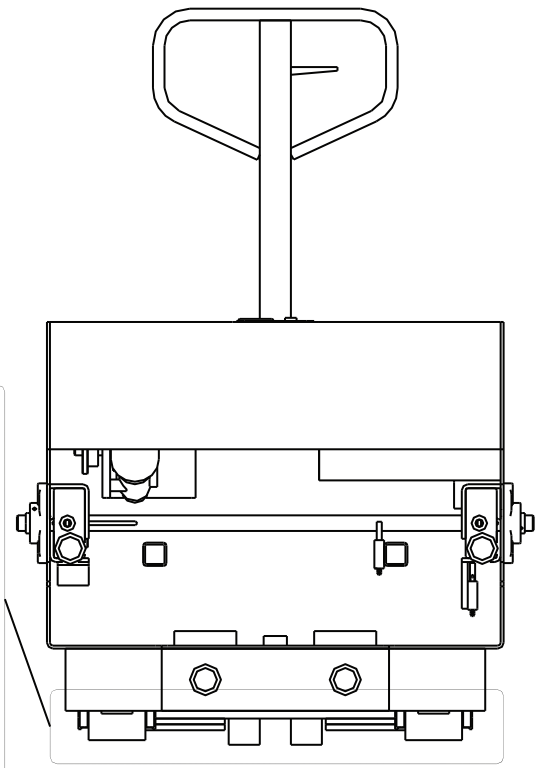
HEIGHT ADJUSTMENT

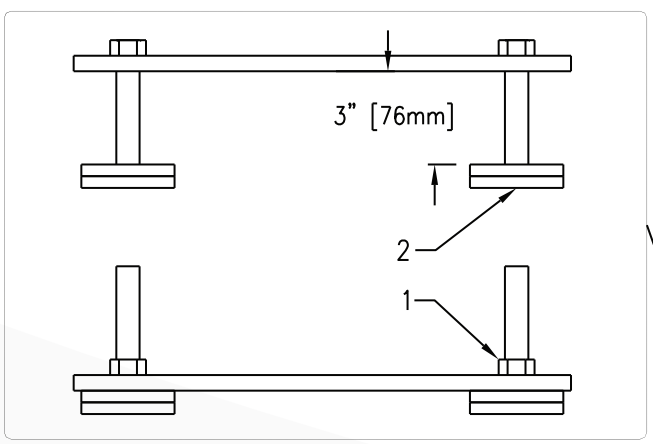
Pallet Jack Brake Height Adjustment

Adjust one brake pad at a time.

1. Loosen locking nut (**Number 1**).
2. Rotate brake pad (**Number 2**) until desired height is reached, to a maximum of 76 mm. Ensure both pads are set to equal height.
3. Tighten locking nuts (**Number 1**) to secure pads in place.







MAINTENANCE CHECKLIST

Regular Maintenance Checklist

Repairs Required

Inspection Performed	Yes	No	Repairs Performed	Completed Date
1. Visual inspection of the unit for damaged or missing parts.				
2. Remove the console lid and chain guards.				
3. Check all electrical connections for security.				
4. Check power drive mounting and sprocket for security.				
5. Check battery meter is working.				
6. Check solenoid direction contactor condition and security.				
7. Check brake pads for wear and adjustment.				
8. Check floor wheels and shafts for wear and damage. Lubricate.				
9. Check bearings for wear, damage, and security. Lubricate every 750 hours.				
10. Check bridge limit switches for proper adjustment and security.				
11. Check slider strips for wear, damage, and security.				
12. Check bed rollers and shafts for wear and/or damage.				
13. Check chain and sprockets for wear. Lubricate every 250 hours.				
14. Visually inspect to ensure all fasteners are in place and secure.				
15. General cleaning of unit (wipe down with a non-abrasive cleaner)				
16. Replace and secure all covers.				

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