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OTC 4240A

Instruction Manual for OTC Tools 4240A 30-Ton King Pin Pusher Set

Brand: OTC | Model: 4240A

1. INTRODUCTION AND OVERVIEW

The OTC Tools 4240A 30-Ton King Pin Pusher Set is a heavy-duty hydraulic tool designed to efficiently remove kingpins and brake anchor pins from commercial vehicles. This powerful system replaces traditional, time-consuming methods involving torches and hammers, significantly reducing job completion time from hours to minutes.

Utilizing a 30-ton hydraulic hollow center cylinder and a two-speed hand pump, the 4240A provides immense force to push out even the most corroded pins. Its versatile design, including five special collars and two pins, allows it to accommodate both straight and tapered kingpins ranging from 7/8 inch to 2 inches in diameter and up to 11-1/4 inches in length. A special adapter is included for quick removal of brake anchor pins.

Key Features:

- Hydraulic hollow center cylinder with 30 tons of force for efficient pin removal.
- Five special collars and two pins for compatibility with straight and tapered kingpins.
- Accommodates pins from 7/8 inch to 2 inches in diameter and up to 11-1/4 inches in length.
- Significantly reduces job time from hours to minutes.
- Includes 4121A-MA hydraulic cylinder and 4012A two-speed hand pump.
- Assembled in USA.



Figure 1.1: Complete OTC Tools 4240A King Pin Pusher Set, showing the hydraulic cylinder, frame, hand pump, hose, and various collars and pins.

2. SAFETY INFORMATION

WARNING: Always read and understand all instructions and safety warnings before operating this equipment. Failure to do so may result in serious injury or property damage.

- **Personal Protective Equipment (PPE):** Always wear appropriate safety glasses or goggles, heavy-duty gloves, and steel-toed boots when operating this tool.
- **Work Area:** Ensure the work area is clean, well-lit, and free from obstructions. Keep bystanders away from the operating area.
- **Tool Condition:** Before each use, inspect the tool for any signs of damage, wear, or leaks. Do not use if any components are damaged.

- **Hydraulic System:** Never exceed the rated capacity of 30 tons. Do not attempt to repair hydraulic components unless you are qualified. Hydraulic fluid under pressure can penetrate skin and cause serious injury.
- **Stability:** Ensure the vehicle or component being worked on is securely supported and stable before applying force.
- **Proper Use:** Use this tool only for its intended purpose: removing kingpins and brake anchor pins. Do not modify the tool or use it for applications it was not designed for.
- **Corrosion:** Be aware that corroded pins may release suddenly. Maintain a safe distance and position during operation.
- **Proposition 65 Warning:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

3. PACKAGE CONTENTS

Upon opening the package, verify that all components listed below are present and undamaged:

- 1 x King Pin Pusher Frame Assembly
- 1 x 4121A-MA Hydraulic Hollow Center Cylinder
- 1 x 4012A Two-Speed Hand Pump
- 1 x Hydraulic Hose with Couplings
- 5 x Special Collars (various sizes for kingpins)
- 2 x Pins (for kingpins)
- 1 x Special Adapter (for brake anchor pins)
- Instruction Manual (this document)



Figure 3.1: Close-up view of the OTC 4240A components, including the hydraulic pump, hose, and various collars and pins.

4. SETUP AND ASSEMBLY

The OTC 4240A King Pin Pusher Set requires minimal assembly before use. Follow these steps to prepare the tool:

1. **Unpack Components:** Carefully remove all components from the packaging and lay them out on a clean, stable surface.
2. **Inspect for Damage:** Visually inspect all parts for any signs of shipping damage or manufacturing defects. If any damage is found, do not proceed with assembly or operation; contact OTC customer support.
3. **Connect Hydraulic Hose:** Connect one end of the hydraulic hose to the 4121A-MA hydraulic cylinder and the other end to the 4012A two-speed hand pump. Ensure connections are tight and secure to prevent leaks.
4. **Prepare Frame:** The main frame assembly typically comes pre-assembled. Ensure all bolts are tightened securely.

5. **Select Collars/Pins:** Based on the kingpin or brake anchor pin size you intend to remove, select the appropriate collar(s) and pin(s) from the provided set. Refer to the operating instructions for guidance on selection.



Figure 4.1: Example of a similar tool in operation, demonstrating the general setup for kingpin removal.

5. OPERATING INSTRUCTIONS

5.1. Kingpin Removal

1. **Prepare Vehicle:** Safely lift and support the vehicle on jack stands or a lift. Remove any components obstructing access to the kingpin.
2. **Clean Area:** Thoroughly clean the area around the kingpin to remove dirt, rust, and debris. Applying penetrating oil beforehand can aid in removal.
3. **Position Pusher:** Place the kingpin pusher frame assembly over the kingpin. Ensure the hydraulic cylinder is aligned directly with the top of the kingpin.
4. **Select Collars/Pins:** Choose the appropriate collar(s) and pin(s) that fit snugly around the kingpin and within the pusher's frame. The tool accommodates sizes from 7/8" to 2" in diameter and up to 11-1/4" in length.
5. **Apply Force:** Operate the 4012A two-speed hand pump. The two-speed feature allows for rapid initial movement and then switches to a slower, more powerful stroke for high-force applications. Pump the handle steadily to apply hydraulic pressure.
6. **Monitor Progress:** Continuously monitor the kingpin's movement. The 30 tons of force will gradually push the kingpin out. Be prepared for sudden release, especially with heavily corroded pins.
7. **Release Pressure:** Once the kingpin is removed, slowly release the hydraulic pressure using the pump's release valve.
8. **Remove Tool:** Carefully remove the kingpin pusher assembly from the vehicle.

5.2. Brake Anchor Pin Removal

1. **Prepare Brake Assembly:** Access the brake assembly and identify the anchor pin. Ensure the brake spider is accessible.
2. **Install Adapter:** Install the special adapter into the pusher's base block. This adapter is designed to properly engage with the brake anchor pin.
3. **Position Pusher:** Position the unit over the brake's spider, ensuring the adapter is aligned with the anchor pin.
4. **Apply Force:** Operate the 4012A two-speed hand pump to apply hydraulic pressure, pushing the anchor pin out.

5. **Release Pressure & Remove Tool:** Once the anchor pin is removed, release pressure and carefully remove the tool.

6. MAINTENANCE

Proper maintenance ensures the longevity and reliable operation of your OTC 4240A King Pin Pusher Set.

- **Cleaning:** After each use, wipe down all components with a clean cloth to remove dirt, grease, and hydraulic fluid residue.
- **Lubrication:** Periodically apply a light coat of machine oil to moving parts and threaded sections to prevent rust and ensure smooth operation.
- **Hydraulic Fluid:** Check the hydraulic fluid level in the hand pump regularly. Top up with high-quality hydraulic jack oil as needed. Refer to the 4012A hand pump manual for specific fluid requirements and bleeding procedures.
- **Hose and Couplings:** Inspect the hydraulic hose for cracks, kinks, or leaks. Ensure couplings are clean and free of debris. Replace damaged hoses immediately.
- **Storage:** Store the tool in a clean, dry environment, away from extreme temperatures and corrosive materials. Ensure the hydraulic cylinder is fully retracted before storage.
- **Professional Service:** For any complex repairs or hydraulic system issues, it is recommended to seek service from an authorized OTC service center.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your King Pin Pusher Set.

Problem	Possible Cause	Solution
Loss of Hydraulic Pressure / Ram Not Extending	Low hydraulic fluid level; Air in the hydraulic system; Leaking seals; Release valve open.	Check fluid level and top up if necessary. Bleed air from the system (refer to pump manual). Inspect for leaks and replace seals if damaged. Ensure release valve is fully closed.
Ram Extends Slowly or Weakly	Low fluid level; Contaminated fluid; Worn pump seals.	Check and top up fluid. Replace fluid if contaminated. Contact authorized service for pump repair.
Kingpin Not Moving	Insufficient force applied; Kingpin severely corroded/stuck; Incorrect collar/pin selection; Tool misalignment.	Ensure maximum pressure is applied. Apply penetrating oil and allow time to work. Verify correct collar/pin size. Re-align the tool for direct force.
Hydraulic Fluid Leakage	Loose fittings; Damaged seals or hose.	Tighten all fittings. Inspect hose and seals for damage and replace as needed.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact OTC customer support.

8. SPECIFICATIONS

Attribute	Value
Model Number	4240A
Manufacturer	OTC
Force Capacity	30 Tons
Compatible Pin Diameter	7/8 inch to 2 inches
Compatible Pin Length	Up to 11-1/4 inches
Included Hydraulic Cylinder	4121A-MA
Included Hand Pump	4012A Two-Speed Hand Pump
Item Weight	107 pounds
Product Dimensions	38 x 13 x 10.8 inches

9. WARRANTY AND SUPPORT

OTC products are manufactured to high standards and are backed by a commitment to quality. For specific warranty information regarding your 4240A King Pin Pusher Set, please refer to the warranty card included with your purchase or visit the official OTC website.

For technical assistance, parts, or service, please contact OTC Customer Support:

Website: www.otctools.com

Phone: Refer to the OTC website for regional contact numbers.

Service Centers: Information on authorized service centers can be found on the OTC website.

When contacting support, please have your product model number (4240A) and serial number (if applicable) ready.