

TOOL AND MACHINERY GUIDE



402-253-2772

WEBSITE: WCVRAIL.COM

Title: Empty Car Spring Change Fixture

Prepared By: Wulf's Custom Welding

Document No: 0041

Date: December 31, 2011

SUBJECT: EMPTY CAR SPRING CHANGE FIXTURE

Capacity: This fixture has a rated capacity of 30,000 pounds.



TECHNICAL SPECIFICATIONS:

Available Through:

Wulf's Custom Welding

19102 So. 156th Street

Springfield, NE 68059

Tel: 402-253-2772

Fax: 402-253-9092

Website: wcvrail.com

Reference Part Number: Tall Base (For Use On Exposed Rail) – 0041T

Short Base (For Use On Paved Surfaces) – 0041S

Fixture Weight: 22 Pounds

Base Construction Material: Grade 50 Steel

DESCRIPTION:

This fixture is designed to lift bolsters on empty freight cars to accomplish spring or snubber replacement. It has no other intended uses. **THIS FIXTURE MUST ONLY BE USED TO REPLACE SPRINGS ON EMPTY FREIGHT CARS!**

INSTRUCTIONS FOR USE:

WARNING: Follow all instructions and rules for safe operation described in this TAM Guide.

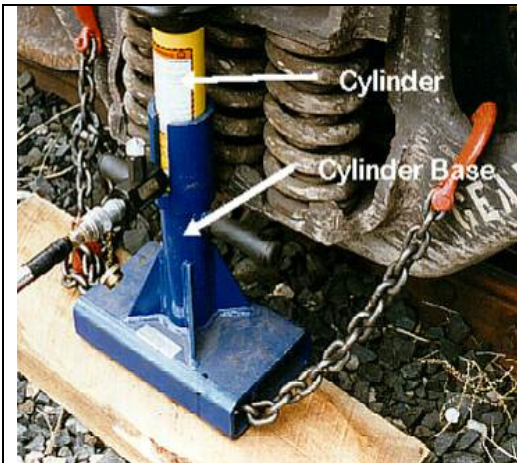
WARNING: Ensure Blue Flag protection is set in accordance with current operating rules before fouling any track or performing any type of repair work.

RULES FOR SAFE OPERATION

- ❑ Thoroughly inspect all the fixture components, connecting chains, pump, hose, and cylinder prior to use. If any defects or leaks are found, they must be corrected prior to attempting spring replacement.
- ❑ Always follow the instructions for safe operation described in this manual when replacing springs.
- ❑ A Spring Handling Tool has been provided with the fixture. Always use this tool to remove and replace springs. Do not install or remove springs with your hand.
- ❑ A Bottle Jack has been provided with the fixture. Always place this jack between the bolster and side frame if it is absolutely necessary to place your hand in the spring opening. Never place your hand in the spring area without the jack being installed.
- ❑ Keep hands free of pinch points at all times.
- ❑ Both the cylinder base and the bolster pin retaining chains must be installed before jacking the freight car.
- ❑ The one-way check valve must be closed before starting the jacking procedure.
- ❑ Make sure the cylinder base is resting on a wooden block. There should be just enough slack in the cylinder base attachment chain to allow the base to remain in contact with the block.
- ❑ The cylinder base and cylinder should be installed as close to vertical as possible before jacking. Place a wedge under the front or rear of the wood blocking if necessary.
- ❑ Make sure the bolster pin and bolster pin shims are as close to horizontal as possible during jacking.
- ❑ Discontinue the application of hydraulic pressure after the bolster has contacted the side frame. Applying additional pressure could damage the tool or the bolster.
- ❑ Any hydraulic pump having a working pressure of 10,000 pounds per square inch or less may be used with this tool. Because of the volume of fluid required for the 15 ton cylinder, an electrical or air powered pump is recommended.
- ❑ The Spring Change Fixture is provided with lifting pins and pin shims for two styles of bolsters. The 2" square pin is used on bolsters with a single casting pocket. The double pin is used on bolsters with a center web.
- ❑ Other than inspection prior to use, the Empty Car Spring Change Tool does not require any type of periodic preventative maintenance.

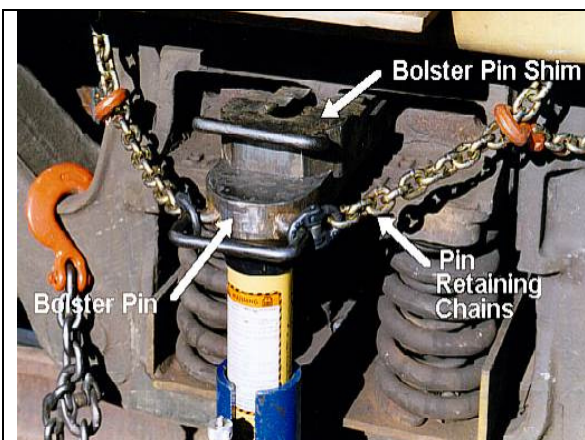
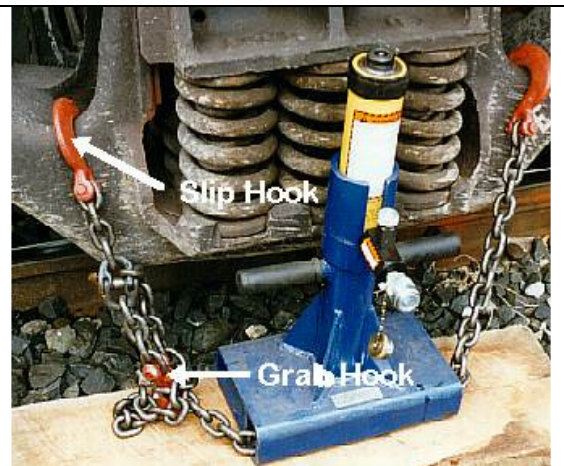
Caution!! This fixture may only be used to replace springs on empty freight cars. Attempting to lift a loaded freight car may result in serious damage occurring to the tool or the freight car bolster.

SPRING CHANGE OPERATING PROCEDURE



- ❑ Transport the fixture and pump to the freight car where spring replacement is required.
- ❑ Wooden blocking at least 1" thick must be placed on the ground where the cylinder base will be located.
- ❑ Place the cylinder base on top of the blocking directly under the center of the truck bolster.
- ❑ Make sure the cylinder base is as close to the side frame as possible.
- ❑ Place the hydraulic cylinder in the sleeve on the base.
- ❑ **For ideal jacking conditions, the cylinder and base must be as close to vertical as possible.**

- ❑ Apply the connecting chain from the base to the side frame using the slip hooks.
- ❑ Adjust the chain slack by using the grab hook.
- ❑ **Make sure there is enough slack in the chain to allow the cylinder base to remain in contact with the ground during extension!**



- ❑ Fully insert the bolster pin into the casting at the end of the bolster. Two styles of bolster pins are provided to accommodate different bolster types.
- ❑ Place the bolster pin shim on top of the lifting pin, moving it into the bolster as far as possible.
- ❑ Place the bolster pin retaining chains around the side frame.
- ❑ Remove as much slack as possible from the pin retaining chains with the grab hooks.
- ❑ **Make sure the machined alloy steel cap is installed on the end of the cylinder piston rod.**

- ❑ Insert the cylinder piston rod into the sleeve on the lifting pin.
- ❑ Close the one-way check valve on the hydraulic cylinder by turning it clockwise.
- ❑ **This valve must be closed prior to starting lifting operations! The check valve prevents the possibility of cylinder collapse in case of hose failure!**





- ❑ Close the control valve on the hydraulic pump and begin applying pressure to the cylinder.
- ❑ Raise the bolster until enough clearance is obtained to remove the springs.
- ❑ **Discontinue applying hydraulic pressure when the bolster contacts the side frame. Applying additional pressure could cause damage to the tool or bolster!**

- ❑ Replace the broken springs.
- ❑ **Always handle springs using the provided spring grabber. Do not remove or replace springs with your hands!**



- ❑ A bottle jack has been included with the spring change tool. If it is absolutely necessary to place your hands into the area between the side frame and bolster, the jack must be installed.
- ❑ **The jack must be installed before attempting to insert your hand into the area between the side frame and bolster!**





- After spring replacement has been completed, release hydraulic pressure by opening the pump control valve, then turning the handle on the one-way check valve counter-clockwise.
- This valve is designed to provide a slow, controlled release, so it will be necessary to turn the handle at least one or two full revolutions.

- Remove the tool components from the bolster, inspect them, and place them back into their normal place of storage.



Contact Wulf's Custom Welding at 402-253-2772 to order parts or check for pricing and availability.

SAFETY PRECAUTIONS:

WARNINGS: Noncompliance could cause injury to employees

CAUTIONS: Noncompliance could cause damage to equipment

NOTES: Pertinent information

1. WARNING: Wear personal protective equipment in accordance with all current Safety rules and requirements.
2. WARNING: Keep your hands and fingers away from potential pinch points during spring replacement
3. WARNING: Follow all of the rules for safe operation and described in this TAM Guide.