INSTALLATION INSTRUCTIONS FOR STUCKI RETROXT 4500 EXTENDED (5/8”) TRAVEL SIDE BEARING UPGRADE KIT

ON CARS WITH STUCKI 690 CAGES

The Stucki model RetroXT 4500 extended travel, constant contact side bearing is designed primarily for retrofit applications to freight cars having Stucki 690RL side bearings. The model RetroXT 4500 extended travel side bearing meets the requirements for 5/8” travel. It consists of one RB-59 cap seated on two RB-59 blocks, with two RetroXT Stops located on either side of the block and cap subassembly. These five components are assembled inside a Stucki 690 side bearing cage (Figure 1). The RetroXT 4500 components shown here should not be assembled into any other side bearing housing unless specifically approved by A. Stucki Company.

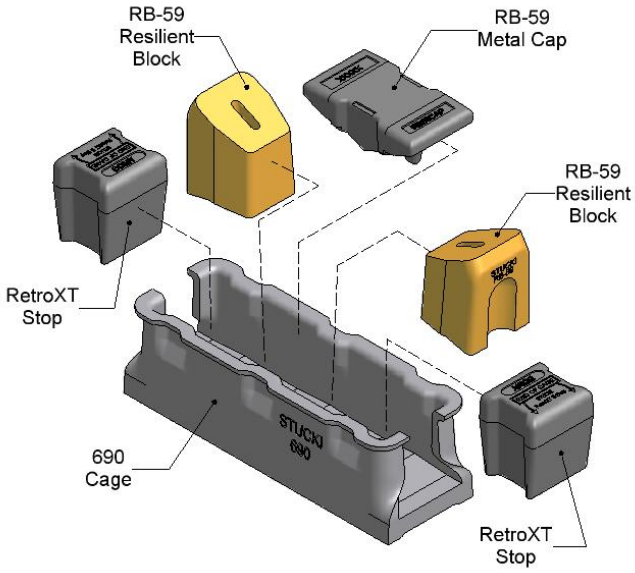

Figure 1. Assembly of RetroXT 4500

Model RetroXT 4500 is designed for use on cars having body weights (less trucks) of no less than 21,175 pounds.

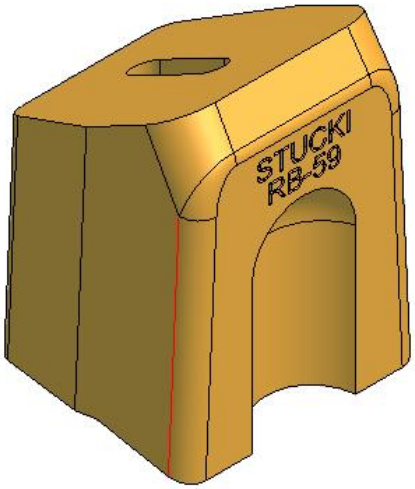

Figure 2. RB-59 Resilient Block

Stucki manufactures several different resilient side bearing models, all of which use a different and exclusive block design. The RB-59 resilient blocks used in the RetroXT 4500 are not interchangeable with the blocks in any other side bearing model. The distinguishing features of the RB-59 are illustrated in Figure 2. All blocks are individually marked, as are the shipping cartons.

INSTALLATION PROCEDURES

To ensure the proper life and performance of the RetroXT 4500 resilient side bearing, as well as the operating safety of the freight cars to which they are applied, the following instructions must be adhered to carefully:

1. CAR BODY SIDE BEARING WEAR PLATE

Body side bearing wear plate (or wedge) must conform to AAR STANDARD S-235-83. Surface must be smooth. Weld spatter, heavy rust, or surface projections must be removed by grinding. Fastener heads must be smooth and flush with, or recessed into, the wear plate surface. Fasteners must be securely tightened.

Plates or wedges with surface depressions between fastener holes, such as roller impressions, greater than 1/8”, or greater than 1/16” over any 4” space, must be replaced. Wear plate surface must be reasonably parallel to the side bearing mounting surface of the truck bolster. Variation should not exceed 1/16” across width, or 1/8” end-to-end.

2. TRUCK SIDE BEARING CAGE

The 690 side bearing cage must be free of flaws or cracks and must be securely fastened to the truck bolster. Please refer to A. Stucki Company’s *Installation Instructions for Roller Side Bearings* to obtain cage fastener recommendations.

The heads of the cage fasteners must be reasonably flush with the contour of the bottom of the cage.

The internal length of the cage (between end gibs) must not be less than 11-19/32”. Cages not meeting this requirement should be replaced.

The inside edges of the end gibs must be free of upset metal that could prevent the RetroXT Stops from fitting flush against the inside faces.

3. RESILIENT BLOCKS

The RB-59 resilient blocks, when compressed by the car body to the nominal 5-1/16” setup height, will provide (after an initial break-in relaxation period) approximately 4500 pounds of vertical preload per side bearing. The initial relaxation period will be about 12 to 24 hours IF THE TEMPERATURE OF THE RESILIENT BLOCKS IS ABOVE 50°F. During this time, THE CAR BODY CENTERPLATE MAY NOT BE IN CONTACT WITH THE TRUCK BOLSTER, since side bearings with new blocks installed support more than the designed preload value. With proper lubrication of the RetroXT 4500 metal cap, however, initial wear plate friction is very low, and the car should experience no difficulty moving through curves.

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Until initial relaxation of preload has occurred, the vertical space at a side bearing will probably be greater than as originally set up. It will gradually approach the anticipated dimension. AT TEMPERATURES BELOW 50°F, THIS MAY REQUIRE MORE THAN 24 HOURS. For this reason, blocks being installed in a cold environment should be stored at near room temperature for at least 24 hours prior to installation.

If solid lubricants have been applied to the centerplate, the anticipated side bearing height may not be realized until after the car has been moved for some distance, as some solid lubricants are capable of supporting considerable vertical load.

The resilient blocks must not be exposed to temperatures greater than 200°F, OR 175°F for extended periods of time. If cages have been riveted, welded, or otherwise heated for any reason, the resilient blocks should not be installed until the cage and fasteners have cooled to a touch-safe temperature.

4. ACHIEVING PROPER VERTICAL SETUP HEIGHT

Measurement of the side bearing space must always be MADE WITH EMPTY CAR POSITIONED ON REASONABLY LEVEL TRACK (near zero cross-level difference) before installing the resilient blocks or applying any form of solid centerplate lubrication* (this is to ensure metal-to-metal centerplate contact).

Vertical space between the car body side bearing wear plate (or wedge) and the truck bolster surface to which the side bearing cage is mounted must be 5-1/16" ± 1/16", measured as illustrated in Figure 3 at the longitudinal midpoint of the cage.

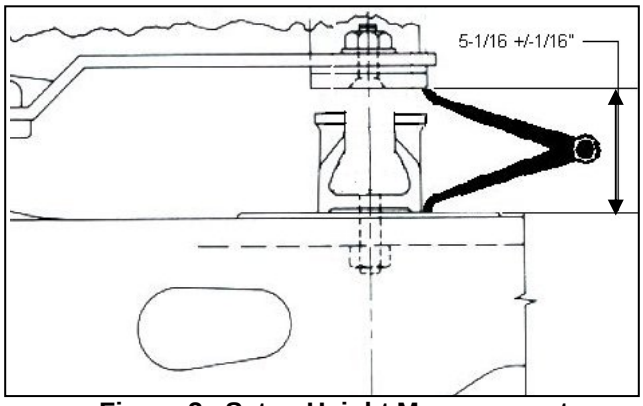

Figure 3. Setup Height Measurement

Although shimming under side bearing cages is not recommended, this may be encountered with some older cars. In such cases, the setup height measurement must be made from, or referenced to, the tops of these shims.

When body side bearing shimming adjustment is required to obtain the specified setup heights, it is acceptable to average the measurements for the two side bearings at each end of a car. The sum of both measurements may thus be as low as 10", or as high as 10-1/4"; however, in no case may an individual space be under 5".

If any type of plastic flat or "dog dish" style, or "drop-in" manganese centerbowl liners are to be used, these must be in place when setup height measurements are taken. When new plastic liners are used, A. Stucki Company recommends that the setup heights be adjusted to 5-1/8" ± 1/16" to allow for early "seating in" and compression set of the liner material. The control of truck hunting may be diminished somewhat when low friction centerplate liners are used, or when centerplates are lubricated excessively.

5. INSTALLATION OF COMPONENTS INTO CAGE (SEE FIGURE 1)

Insert the two RetroXT Stops into place, making sure the side directed as "END OF CAGE" has the arrows pointing toward the open ends of the cage (see Figure 4).

The two RB-59 blocks and the RB-59 cap will arrive already assembled. The metal cap is seated on the resilient blocks (see Figure 1), with the fins on the underside of the cap engaged into the slots on the sloped upper surfaces of the blocks. The cap is seated into the blocks as far as manually possible. The cap will then be fully seated when the car body is lowered onto the trucks.

Position the subassembly (of the two resilient blocks and the RB-59 cap) between the two RetroXT Stops.

All elements should fit into place easily. If elements must be forced into position, disassemble and review instruction 2: measure cage length and check RetroXT Stops fit against ends of cage.

After the resilient side bearings have been assembled, lubrication of the metal cap is recommended.

Figure 4. Orientation of RetroXT Stops

Lubrication should be lithium based grease (no molybdenum disulphide) applied as a "dab" approximately 1-1/4" to 1-1/2" diameter on the top center of the cap (see Figure 5). The car body can now be lowered onto the trucks to complete the installation.

*NOTE: Constant contact side bearings should never be relubricated in service, except in repair cases when a NEW side bearing cap is being installed SIMULTANEOUSLY with a NEW body side bearing wear plate.

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