

# STUCKI RFE-53 RESILIENT FRICTION ELEMENT INSTALLATION INSTRUCTIONS

The Stucki RFE-53 resilient friction element is a column friction snubbing assembly that replaces conventional Super Service RideMaster friction wedges on 6-1/2x12 journal freight trucks.

The purpose of the RFE-53 is to reduce the wear that normally occurs on the slope surfaces and sidewalls of the friction wedge pockets in the truck bolster. Friction snubbing forces are equivalent to those of the Super Service RideMaster system, which the RFE-53 replaces.

## I. NOMENCLATURE AND PARTS DESCRIPTION

The RFE-53 assembly (Fig. 1) consists of an austempered ductile iron wedge ① and a pair of resilient urethane pads ② affixed to the sloped wings of the wedge. The resilient pads are interlocked to the iron wedge by means of transverse ribs ③ and tapered posts ④, which are tightly retained by tapered holes ⑤ on the wedge slopes. Along each edge of the vertical (wearing) face of the wedge are indicator grooves ⑥, to indicate the allowable wear limit.

Other parts of the RFE-53 friction snubbing systems include two load carrying springs and a hardened wear plate attached to the side frame column. These components are identical to the wedge springs and column wear plates used in a conventional variable friction snubbing system, and in the case of a retrofit application, existing springs and wear plates need not be replaced if in satisfactory condition. Drawings showing the arrangement of either system can be obtained from the A. Stucki Company web site, [www.stucki.com](http://www.stucki.com).

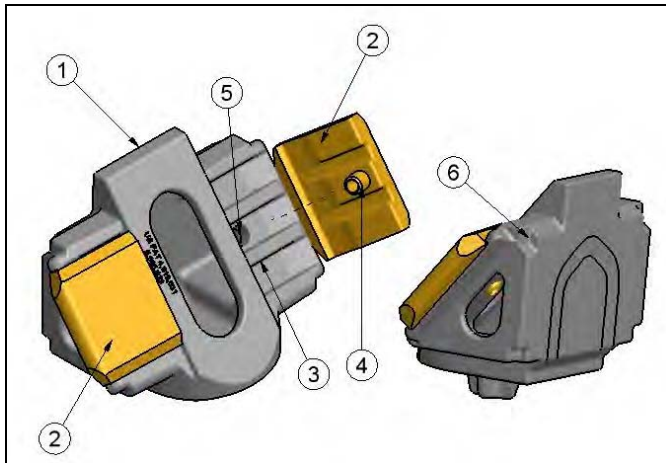


Figure 1

## II. INSTALLATION INSTRUCTIONS

The following instructions, A, B and C, apply generally to retrofit applications. For new car applications, proceed with instruction D, Assembly Into Truck.

To achieve the longest possible service life and most efficient performance of the RFE-53 friction elements in retrofit applications, it is important that the following instructions are followed carefully:

### A. TRUCK BOLSTER PREPARATION

Although no bolster modification is required for Stucki RFE-53 installation, it is essential that wedge pocket conditions be inspected for compliance with the following requirements:

If bolster pocket slopes exhibit more than 3/16" wear at any point from the extreme top edge when referenced to an ASF angle gage No. 1-9201, slope surfaces must be restored by rebuilding with weld in accordance with conventional practice. Hard-faced weld rebuild is not required for RFE-53 application.

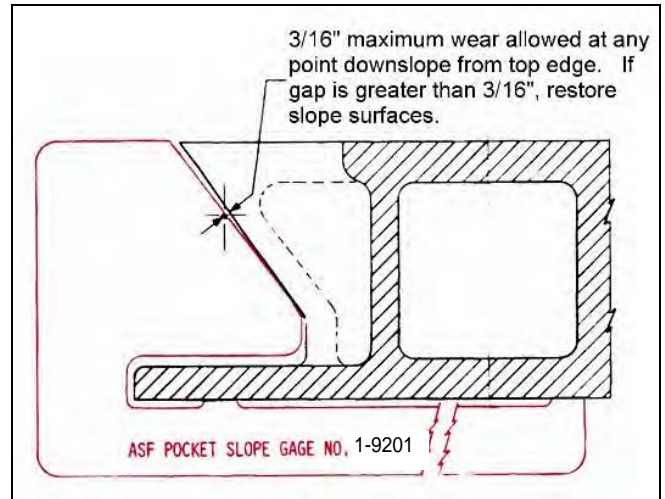


Figure 2

When slope surfaces are rebuilt, the welded areas must be ground reasonably smooth and flat. This must include removal of all significant weld spatter in corners. The top edge must be rounded off by grinding to approximately 1/8" radius (see Fig. 3).

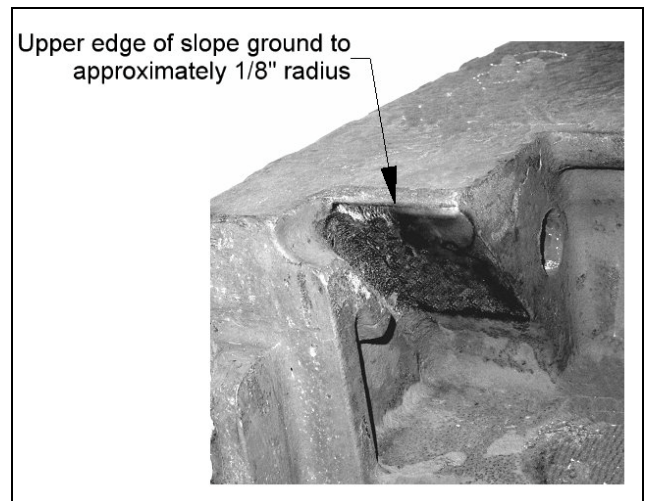


Figure 3

**IMPORTANT:** In all cases the bolster surfaces that will be in contact with the elastomer pads on the RFE-53 wedges must be smooth and free of projections that would gouge the pad surfaces. In no case should RFE-53 be installed unless bolster pocket slopes meet the requirements noted above. Bolster pocket slopes need no lubrication when applying RFE-53 Stucki wedges.

## B. INSPECTION OF FRICTION WEDGE SPRINGS

1. If existing coil springs are to be re-applied with the RFE-53 assembly, they should be checked for sufficient free height to insure proper loading of the wedges. It is recommended to use springs close to new free height to insure proper loading of the wedges.

## C. INSPECTION OF SIDE FRAME COLUMN WEAR PLATES

Column wear plates must be inspected for wear or cracks and replaced as required in accordance with standard practices.

## D. ASSEMBLY INTO TRUCK

If the conditions described in the preceding instructions A, B, and C for retrofit application have been met, the RFE-53 elements may be assembled into the truck.

Procedure for installation of RFE-53 wedges is virtually identical to that of conventional wedges.

1. The urethane pad should arrive assembled onto the slope face of the wedge casting. If it has become disengaged in shipping, refer to Paragraph IV C below.
2. Insert the wedge assembly upward into pocket urethane pad facing truck bolster pocket slope. If pad does not pass into wedge cavity easily, check bottom corners of pocket for upset metal flash resulting from truck spring action or wear on the bottom of the bolster.
3. Wedge retaining pins may be used if desired but are not required, and they should be removed after the truck is completely assembled before the car is released for service.
4. Holding wedge in place, insert the proper coil springs, top first, making sure of proper seating on bottom of wedge. If retaining pins are not available, continue to lift spring and wedge upward to allow bottom of spring to pass over retaining lugs on side frame seat for proper positioning.
5. After all wedges and truck springs have been installed, lower the car body onto the truck, then visually check the wedges for proper positioning in the bolster pocket. Wedges should be

reasonably well seated against the bolster slope and column wear plates, and side coil springs should be checked that they are seated properly on the wedges and are not partially seated against the bolster surface.

## III. IN-SERVICE INSPECTION OF RFE-53s

The Stucki Yard and Shop Inspection Pocket Guide provides detailed instructions for in-service inspection of RFE-53 friction elements.

## IV. REPLACEMENT OF RFE-53 COMPONENTS

- A. Resilient pads should be replaced on an individual wedge in pairs. Worn or damaged pads can be pried free from a wedge with a large screwdriver. New pads are installed by aligning the tapered post on the back face of the pad with the hole in the slope face of the wedge and striking the pad face with a mallet until the pad is seated flush against the wedge slope.
- B. If the pads have become noticeably melted, it is virtually certain that the subject truck has experienced substantial high-speed hunting. Replacing the pads will not correct the truck deficiency that allowed the hunting to occur. A close inspection of the entire truck, and in particular, the constant contact side bearings, should be made to find the cause of the problem.

If the pad faces exhibit irregular, severe wear, the indication is that the mating bolster pocket slopes have not been properly prepared for the RFE-53 installation. They should be inspected and reworked as required.

If the pads have worn to the extent that the wedge casting has been in contact with the pocket slope surface, there may be gouging of the slope that will require weld restoration and grinding.

- C. RFE-53 assemblies should be replaced in pairs on a given bolster end.
- D. Conventional all-steel friction wedges and Stucki RFE-53s should never be combined in the same truck. RFE-53s must be replaced in kind.