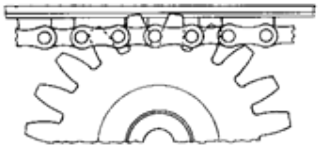
Service Bulletin [1989-5]

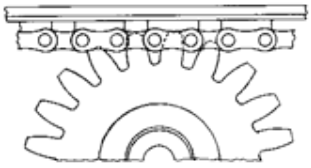
SF-7 AND SF-7W Cuber Slider Plate, Drive Sprocket, and Wear Bar Adjustments

INTRODUCTION

Sometime during the production life span of an SF-7 or SF-7W cuber, the cuber's slider plate may develop a "bounce" as it extends and retracts. This is a routine maintenance problem that is usually caused by either improper timing of the drive sprockets or by significant wear of the slider plate's wear bars. Both of these conditions result in the slider plate actually contacting the drive sprocket teeth (Fig. A) as it moves back and forth which, in turn, causes the slider plate to "bounce". This Service Bulletin explains how to adjust the timing of the drive sprockets and how to shim the wear bars.



INCORRECT POSITION
Slider Plate Contacts Sprocket Teeth Causing "Bounce"



CORRECT POSITION
Slider Plate Does Not Contact Sprocket Teeth

Fig A. Slider Plate Position

SAFETY

Follow all standard safety procedures when working on the cuber, including the safety procedures noted in the cuber catalog. Before adjusting the drive sprockets or shimming the wear bars, make sure the cuber is OFF, the cuber's main electrical panel and hydraulic power unit are turned off and locked out, the cuber elevator is locked and all cuber component's motions are stopped. Before returning the cuber to operation, properly close and secure the cuber's main electrical panel and hydraulic power unit, and make sure all guards and safety devices are properly installed.

ADJUSTING THE TIMING OF THE DRIVE

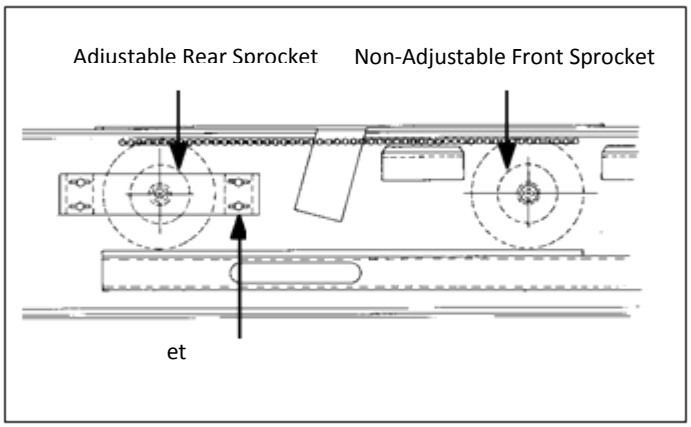


Fig. B Side View of Cuber Base

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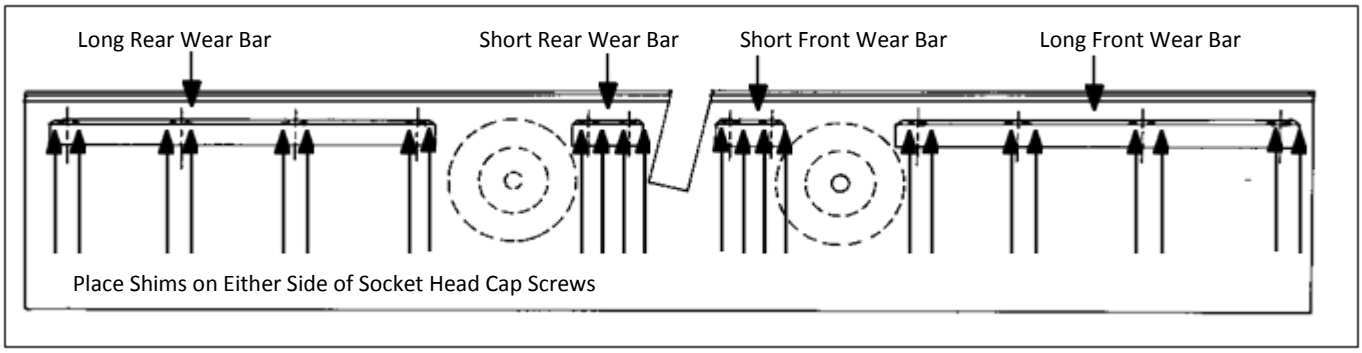
SPROCKETS

As noted above, bouncing of the slider plate can be caused by incorrect timing of the drive sprockets (ie. incorrect distance between the drive sprockets). The front sprocket on each side plate is not adjustable. The rear sprocket on each side plate is adjustable (Fig. B). Each rear sprocket is welded to a slotted bracket which is then mounted to the side plate with four 3/8" bolts. To properly set the distance between the sprockets:

1. Raise the elevator all the way up and lock it.
2. Turn off the cuber's power and loosen the four bolts on one side only.
3. Turn the cuber's power on and use the manual control to run the slider plate forward until the slider plate chain contacts both sprockets. Jog the slider plate back and forth very quickly - this will allow the sprocket to “find its center”.
4. Turn the cuber's power off, tighten the four bolts.
5. Repeat this procedure for the other side. The sprockets should now be properly timed.



SHIMMING THE SLIDER PLATE WEAR BARS

As noted before, bouncing of the slider plate can be caused by significant wear of the slider plate’s wear bars. If this situation exists, it is necessary to shim under the wear bars to raise the slider plate above the sprocket teeth. There are four wear bars on each side of the elevator - a long bar in the rear, two short bars in the gate area, and a long bar in the front (Fig. C). When shimming under the wear bars, note that the short wear bars in the gate area receive the greatest amount of wear and they may require more shim stock than the long wear bars to achieve the correct height. Use the following procedure to shim under these wear bars:

1. Raise the elevator all the way up and lock it.
2. Run the slider plate all the way forward so that the socket head cap screws holding the rear wear bars in place are accessible from under the elevator.
3. Turn off the cuber's power and loosen the socket head cap screws securing the rear wear bars to the apron plate.
4. Using shim stock, shim under the wear bars to the 25/32" +/- 1/32" dimension as

shown in Fig. D. Be careful to place a shim on each side of each socket head cap screw to avoid breaking the wear bars (Fig. C).

5. After all four rear wear bars are properly shimmed; fully tighten the wear bar socket head cap screws.
6. Run the slider plate all the way back. Watch for tight spots or interference as the slider plate moves.
7. Turn off the cuber's power.
8. To access the front wear bars, remove the cuber's front cover plates.
9. Repeat the procedure used on the rear wear bars.
10. After shimming is complete, inspect the area between the wear bars along the entire length of the elevator to ensure that all of the wear bars are level with one another. Turn the cuber's power back on and run the slider plate forward. Observe the clearance between the sprocket teeth and the slider plate. If there is still contact, repeat the shimming procedure adding a little more shim stock. If the slider plate binds.

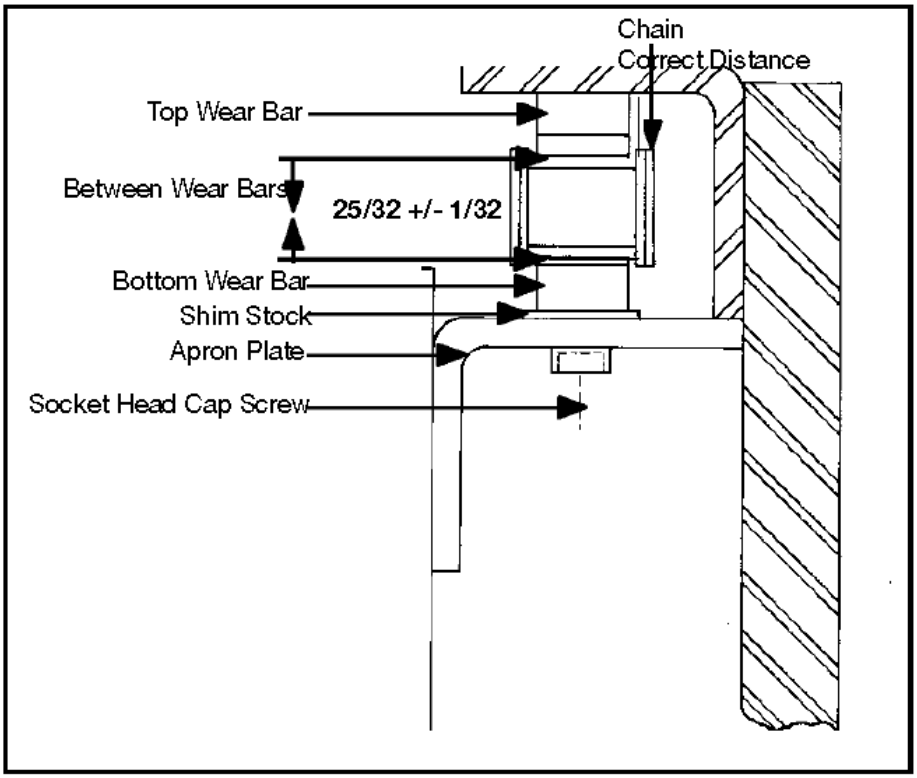


Fig.D. *Cut Away View Of Shimming Wear Bars*

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SAFETY BULLETIN

This notice is issued to advise you that some previously accepted shop practices may not be keeping up with changing Federal and State Safety and Health Standards. Your current shop practices may not emphasize the need for proper precautions to insure safe operation and use of machines, tools, automatic loaders and allied equipment and/or warn against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law. Since many shop practices may not reflect current safety practice and procedures, particularly with regard to the safe operation of equipment, it is important that you review your practices to ensure compliance with Federal and State Safety and Health Standards.

IMPORTANT

The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed. Observe the following safety precautions:

ALWAYS:

- ✓ Be sure proper guarding is in place for all pinch, catch, shear, crush, and nip points.
- ✓ Be sure that all personnel are clear of the equipment before starting it.
- ✓ Be sure the equipment is properly grounded.
- ✓ Turn the main electrical panel off and lock it out in accordance with published lockout/tagout procedures prior to making adjustments, repairs, and maintenance.
- ✓ Wear appropriate protective equipment such as safety glasses, safety shoes, hearing protection, and hard hats.
- ✓ Keep chemical and flammable material away from electrical or operating equipment.
- ✓ Maintain a safe work area that is free from slipping and tripping hazards.
- ✓ Be sure appropriate safety devices are used when providing maintenance and repairs to all equipment.

NEVER:

- ✓ Exceed the rated capacity of a machine or tool.
- ✓ Modify machinery in any way without prior written approval of the Besser Engineering Department.
- ✓ Operate equipment unless proper maintenance has been regularly performed.
- ✓ Operate any equipment if unusual or excessive noise or vibration occurs.
- ✓ Operate any equipment while any part of the body is in the proximity of potentially hazardous areas.
- ✓ Use any toxic flammable substance as a solvent cleaner.
- ✓ Allow the operation or repair of equipment by untrained personnel.
- ✓ Climb or stand on equipment when it is in operation.

It is important that you review Federal and State Safety and Health Standards on a continual basis. All shop supervisors, maintenance personnel, machine operators, tool operators, and any other person involved in the setup, operation, maintenance, repair or adjustment of Besser-built equipment should read and understand this bulletin and Federal and State Safety and Health Standards on which this bulletin is based.