

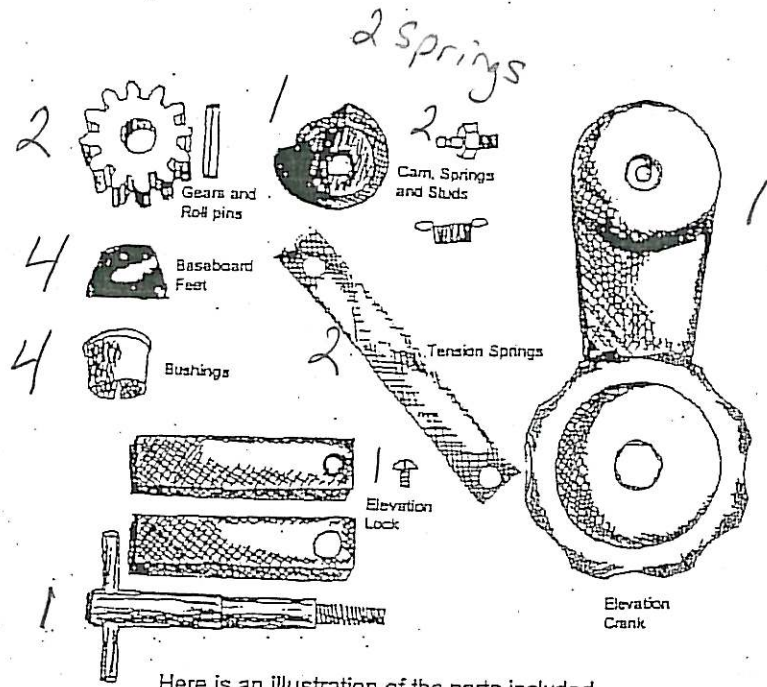
# BESELER 23C Series Refurbishing Kit Cat # 7010

The 23C refurbishing kit is designed to allow you to repair or refurbish some of the most common assemblies of the 23 C series listed below. NOTE: Although many of these parts can be used on the 23CIII, the Elevation lock assembly cannot be used. It may be better to purchase only those parts needed for the 23CIII lock assembly. Contact Technical Services for help.

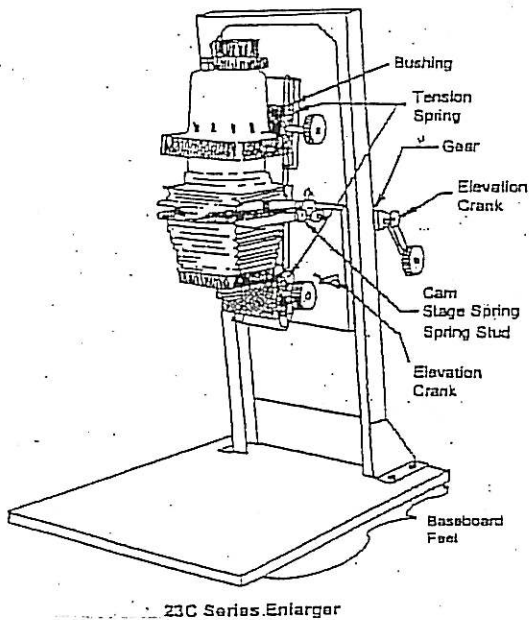
23CIII (excluding elevation lock)  
23CII XL and II XL Dichro  
23CII, 23 C

With this kit, you will be able to replace the:

- Elevation Gears (One pair)
- Carriage elevation crank (One assembly)
- Carriage elevation lock -Not for 23CIII models (One set)
- Right Negative Stage Cam (One each)
- Negative stage springs (One pair)
- Negative stage spring studs (One pair)
- Stage Tension springs (One pair)
- Guide bushings (Four each)
- Baseboard pads (Four each)



Here is an illustration of the parts included



23C Series Enlarger

You will need to have the following tools to complete the assemblies:

- Hammer
- 1/8 inch drift punch or something comparable
- #2 Phillips head screwdriver
- Small adjustable wrench
- Small Allen Wrench set.

Although we have provided illustrations for many of the assemblies, it will be good to have the instruction book specific to your model available for additional information. Some differences between early and later models of the 23C series may exist. We have made every effort to note these here and to provide specific instructions. However, some may not be noted. In this case, contact our Technical Service Representatives for guidance at (800) 237-3537, extensions 262 and 263. We will be happy to help you.

### Gear Replacement (See View A)

If the gears should become excessively worn, follow the

instructions below. On older 23C units which have a cylindrical counterbalance across the back of the carriage, release the tension of the spring by removing the spring wire coming from the cylinder from under the retainer on the right side of the carriage adjacent to the counterbalance cylinder (as viewed from the back of the enlarger). Count the number of revolutions of the cylinder as you allow the cylinder to spin to relieve spring tension.

Tools required:

- #2 Phillips head screwdriver
- 1/8" drift punch
- Hammer
- 'Penetrating' type oil

(Instructions given as if viewed from back of carriage.)

1. Position carriage to approximately mid-elevation and lock securely with elevation lock.
2. From rear of enlarger, remove right guard by unscrewing two Phillips head screws. Remove guard (and any washers from shaft of older units). Next, remove elevation crank from left side followed by the left guard.
3. Remove elevation shaft from back of carriage. Apply several drops of oil to roll pins to assist in their removal.
4. Place an end of the shaft with a gear onto a firm surface. Using the drift punch and hammer, drive the roll pin out of the gear and shaft. Repeat this procedure on the other side of the shaft. Slide the gears off the shaft keeping in mind the orientation of the gear and shaft.
5. Properly orient the new gear on the shaft. Align the holes of the gear and shaft. Set the roll pin into the hole and drive it into the gear and shaft using the hammer. Repeat for other side.
6. Assemble shaft on carriage. Secure an end with one of the guards. Adjust the carriage and shaft so that the carriage is aligned squarely between the rails. Secure the other guard to the free shaft end. Secure the elevation crank to the shaft. On older units mentioned earlier, readjust the counterbalance spring tension by the number of revolutions measured above.

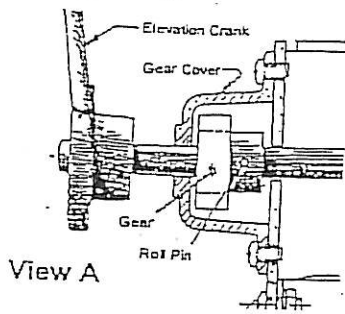
### Carriage Elevation Crank (See View A)

Tools required:

- Phillips head screwdriver

Some older 23C's have a slightly different method of securing the crank arm to the elevation shaft. For details on modifying the crank arm in this kit so that it can be used on these older units, contact our technical service department for instructions.

1. Remove the Phillips head screw which secures the crank arm to the end of the elevation shaft. Remove the crank arm from the shaft. You may need to tap the back side of the hub of the crank arm with a small hammer or wood block in order to free it from the shaft.



View A

2. Place the new elevation crank arm on the shaft. Turn it slightly on the shaft in order to mate the tapered end of the shaft with the corresponding area inside of the hub's casting. Secure with the Phillips head screw.

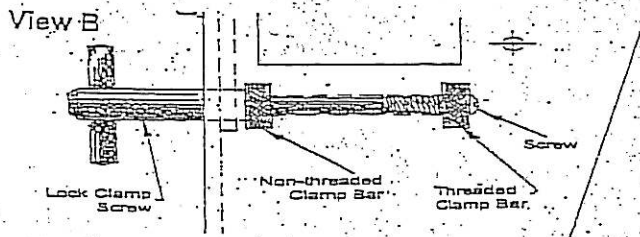
### Carriage Elevation Lock (See View B)

#### Tools Required:

Phillips Head Screwdriver

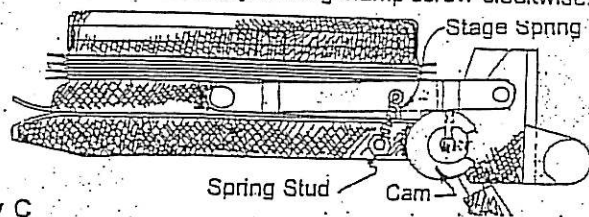
The instructions that follow are for all pre-23CIII models. The lock assembly of the 23CIII is different and you should contact the Technical Service Department for details on this assembly. Caution: To prevent personal injury, take care when making this repair as the carriage will not be locked. Raise the carriage to the highest position on the frame before beginning work on the carriage lock assembly.

1. Position and secure the carriage at the top of the frame.
2. Hold 'T' handle of clamp lock screw. From the back, remove small Phillips head screw from end of threaded shaft.



View B

3. Turn clamp screw counter-clockwise to remove clamp bars. Remove clamp bars and clamp screw from carriage.
4. Install new clamp screw through the front of the carriage. From the back, install the non-threaded clamp bar into the forward slot of the left carriage side and threaded bar in the rear slot. Put the threaded end of the clamp screw through the non-threaded hole of the first clamping bar, then thread into the threaded hold of the second. Screw the small screw into the end of the clamp screw shaft.
5. Tighten elevation lock by turning clamp screw clockwise.



View C

### Right Negative Stage Cam (See View C)

#### Tools Required:

Allen wrench

1. Remove the two set screws which secure the cam to the stage opening lever shaft. Remove the cam.
2. Place the new cam on the shaft, aligning the set screws with the flat areas on the shaft. Tighten the screws.

### Negative Stage Springs (See View C)

#### Tools required:

Phillips head screwdriver

Over time, these springs will become stretched and will not pull the negative stage closed firmly against the film carrier.

1. Close the film stage. Remove the small screw, on the side of the upper film stage arm, which holds the spring to the arm.
2. Remove the other end of the spring from its spring mounting stud. Replace with new spring.

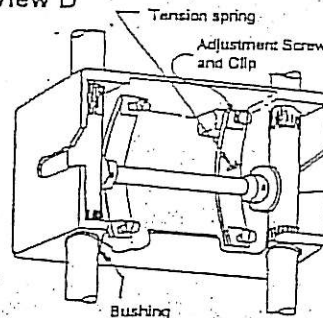
### Negative stage spring stud (See View C)

#### Tools required:

Small adjustable wrench

1. To remove old or damaged stud, use adjustable wrench. Turn stud counterclockwise.
2. Thread new stud into hole on film stage. Tighten stud.

View D



### Stage Tension Springs (See View D)

#### Tools required:

Phillips head screwdriver

Replace these only if they are broken or excessively bowed. The following instructions apply to either the upper elevation housing or the lens stage (lower elevation) housing. The only difference is that the upper housing uses one spring per side while the lower housing uses two springs per side.

1. Remove back cover plate from housing. Remove the upper and lower adjustment screws on the flat tension spring. Remove the spring assembly.
2. Transfer the screw clip from the old spring to the new. Start the adjustment screws. Place assembly back into housing. Tighten the adjustment screws to provide firm (not hard) tension against the adjustment shaft. Replace back cover.

### Guide Bushings (See View D)

#### Tools Required:

Phillips Head Screwdriver

Four guide bushings for the two chrome rods are located on both the upper and lower (elevation) housings. They are inserted into the holes and provide a smooth guide for the chrome focus rods. Replace them if they are missing or defective. Although installation is the same for the two housings, the removal of the housings from the rails is different.

#### Upper Housing:

1. Detach the upper bellows from the condenser assembly by raising the lamp house and sliding the upper bellows off the condenser assembly housing. Remove the condenser assembly. Remove the screws which attach the format guide scale to the top of the chrome rods.
2. Loosen the tension springs (see 'Stage Tension Springs'). Slide the housing off the top of the chrome rails.
3. Push the guide(s) out of the housing and replace with a new part. Reassemble the housing onto the rods.

#### Lower Housing:

1. Remove the screws which hold the triangular stop plate onto the bottom of the focusing rails. Repeat step 2, above.
2. Remove the lower housing, with the bellows attached, off of the chrome rails. Repeat step 3, above.

### Baseboard Feet

To insure stability, remove all old feet. Thoroughly clean and dry an area 2 inches from each corner on bottom of baseboard. Remove backing on foot. Place pad 1 1/2 inches from each edge of the baseboard at each corner. Press pad firmly to fix to baseboard.