

New Rollers for an Old Press

by Sky Shipley, Skyline Type Foundry

One of the important requirements in producing good letterpress printing on a platen press is the right contact pressure between the surface of the rollers and the face of the type, such that a film of ink is properly transferred from one to the other. A generally accepted rule of thumb is that the width of the “squish zone” (amount of the roller circumference that is flattened against the type) should be about one pica. There are several ways to check this on a press, including a test with full-face rule, and simply feeling the bed-to-roller gap with a roller height gauge.

When the time comes to get new rollers for an old press, things get complicated. The factory spec for rollers on a Chandler & Price 8x12, for example, is a diameter of 1½ inches, and the same for the roller trucks. After 120 years of use both the trucks and the bed tracks they ride on will have incurred some wear. This brings the surface of the roller closer to the bed and results in a “squish zone” that's too big, i.e., the rollers are pressing too hard on the type. Here's a procedure developed at Skyline Type Foundry for scientifically measuring your press so you can order new rollers that are of the perfect diameter.

Tools you will need:

1. Inside caliper.



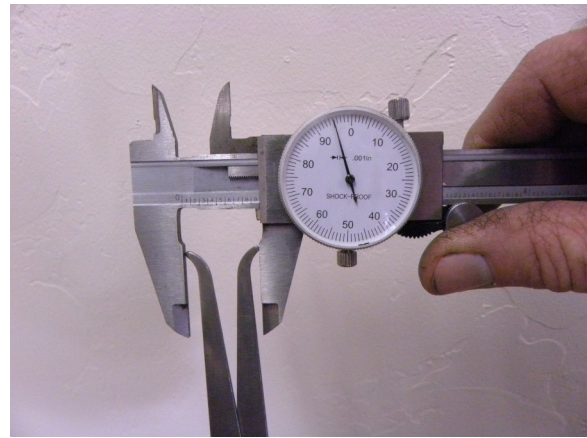
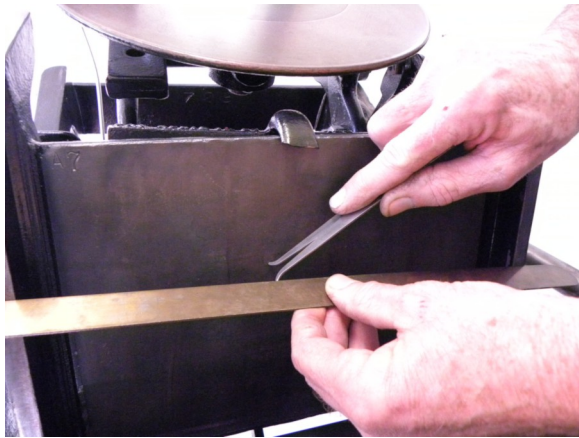
2. Outside caliper (or micrometer).



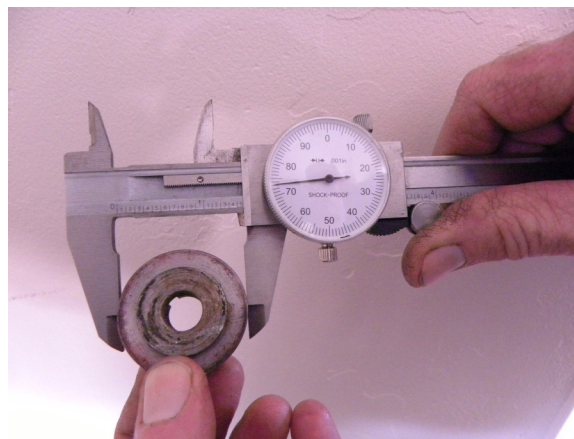
3. A good true straightedge long enough to span across the roller tracks on the press bed.

PROCEDURE

Place the straightedge horizontally across the center of the press bed, held against the roller tracks at each side. Adjust the inside caliper to exactly fit the distance between the straightedge and the bed. Then use the outside caliper to measure the inside caliper and get a dimension in thousandths (three decimal places). Record it in the center block of the grid on the Worksheet. Repeat at points several inches left and right of center, then repeat the series above and below the bed center. Nine data points are adequate for an 8 x 12 press; fewer might be used on a smaller press and more on a larger one. Total these measurements, then divide by their count to get an average. Recorded this on Line 2. This is the height of the roller tracks, and to the extent they're worn down, this will be a little below type-high.



Measure the diameter of the trucks using the outside caliper. Record the data on the Worksheet grid, and enter the average on Line 4. Divide by 2 to get the Radius on Line 5.



Add the Track Height and Truck Radius to get a Bed-to-Centerline dimension on Line 8.

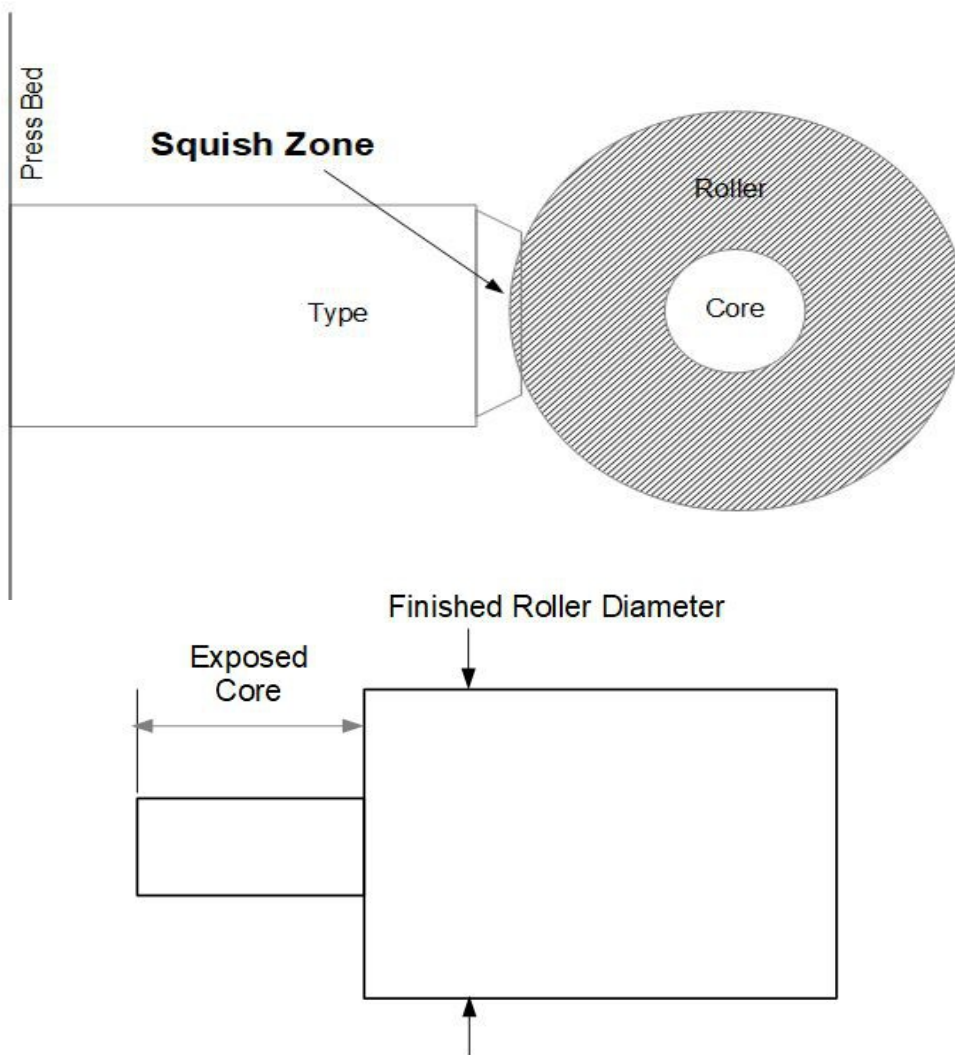
Subtract 0.020" "squish" from Type High to get the desired Bed-to-Roller dimension on Line 11.

Work the last equation to get a desired Roller Diameter to three decimal places. Specify this number to your roller company; they can finish rollers precisely to any diameter.

To avoid an ugly gap in the roller covering at the ends, you should also specify how much of the core should extend beyond the covering to properly fit your press.

It's also worth checking the springs holding the rollers to the tracks. They must be strong enough to keep the trucks rolling firmly on the tracks even with a large form in the press. New springs are readily available from industrial suppliers and can be cut to the desired length.

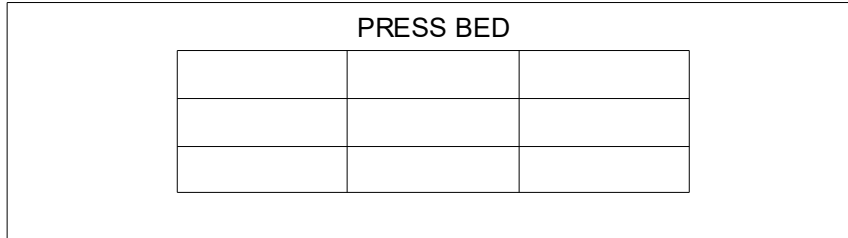
For the record, Skyline uses and recommends Ramco Roller Products. Good folks who know their business and know it well.



ROLLER SPECIFICATION WORKSHEET

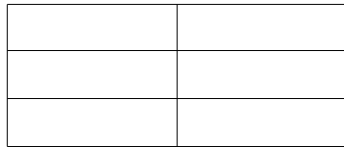
Date _____ Press _____ Serial No. _____

1. Roller Track Height Measurement



2. Average Roller Track Height:

3. Truck Diameter Measurement



4. Average Truck Diameter:

5. /2 = Radius:

6. Track Height (from Line 2)

7. Plus Truck Radius (from Line 5) +

8. Equals Bed to Truck Centerline =

9. Height of Type

10. Less Squish -

11. Equals Target Bed to Roller Surface =

12. Bed to Truck Centerline (Line 8)

13. Less Target Bed to Roller Surface (Line 11) -

14. Equals Target Roller Radius =

15. x 2 = **Target Roller Diameter**