If the blankets employed have already run several thousand impressions before re-mounting, then compensating with packing for fabric compression would not be required.

TRUE ROLLING METHOD (BEARER CONTACT PRESSES)

The plate is packed above bearer height, and the blanket below bearer height.

Plate overpacking is dependant on the diameters of the plate and blanket cylinders and impression cylinder bodies are ground above the bearers. Some of the advantages claimed by this method which was developed and patented by Miehle engineers are as follows:—

1. Printing a true image – transferred to paper the same size as the plate image regardless of paper thickness.
2. Slippage between cylinders is eliminated, minimising slur.
3. Less working pressure on the gears.
4. Elimination of paper stretching forces when the blanket contacts the paper at the printing nip.
5. Make ready is simplified on multicolour printing, plate cylinders are packed the same.

Untrue rolling is caused by the blanket forming a bulge when printing pressure is applied to it. The bulge exerts a force in the direction opposite to the rotation of the cylinders at the printing and impression nips. The bulge at the printing nip stretches the image and the impression nip stretches the paper.

The radial compression exhibited by compressible blankets has to a great extent eliminated the necessity for the use of the true rolling method. A squeeze pressure of .003″ (.07mm) is generally recommended although a squeeze of .004″ (.10mm) may be necessary where grained plates are employed. On high quality work, fine screen work and grainless plates a squeeze pressure of .002″ (.05mm) is often used.

To obtain a .004″ (.10mm) squeeze pressure the diameters of the cylinders must be considered. The plate should be packed to the same diameter as the impression cylinder body. This rule applies to presses which are specifically designed to utilize the true rolling technique. Packing for the true rolling method is as follows:—

Cylinder Diameter	*Plate Cylinder*	*Blanket Cylinder*	*Imp. Cylinder (Ground)*
20″ (508mm)	.010″ (.254mm) (A)	.006″ (.152mm) (B)	.010″ (.254mm) (A)
16½″ (419mm)	.009″ (.228mm) (A)	.005″ (.127mm) (B)	.009″ (.228mm) (A)
15″ (381mm)	.008″ (.203mm) (A)	.004″ (.101mm) (B)	.008″ (.203mm) (A)
12″ (305mm)	.007″ (.178mm) (A)	.003″ (.076mm) (B)	.007″ (.178mm) (A)

(A = above bearers) (B = Below bearers)

This true rolling method can be employed to a limited extent on equal diameter presses. It cannot be used on certain presses since the diameter of the impression cylinder body governs its application. With equal diameter presses the impression cylinder body has the same diameter as the plate and blanket bearer diameters. Certain properties of the true rolling method are obtainable by packing the plate .0003″ (.0076mm) over its bearers for each inch (25.4mm) of plate cylinder diameter. The squeeze pressure is obtained by varying the packing beneath the blanket.

e.g. For a plate cylinder body 16½″ (419mm) dia. to get true rolling action the plate should be packed above the bearers 16.5 × .0003″ = .00495″ [.005″ (0.127mm).]

Plate Cylinder

1. Undercut	.015″ (.38mm)
2. Plate thickness	.008″ (.20mm)
3. Req. Height above bearers	.005″ (.13mm)
4. Total packing required	.015″ (.38mm) + .005″ (.13mm) – .008″ (20mm) = .012″ (.31mm)

Blanket Cylinder

1. Undercut	.162″ (4.1mm)
2. Blanket thickness 2 × .075″	.150″ (3.8mm)

3. Required height below bearers.

.005″ (plate above bearers) – .003″ (.075mm) (squeeze pressure) = .002″ (.051mm)

4. Thickness of packing req. .162″ (4.1mm) – [.002″ (.05mm) + .150″ (3.8mm)] = .010″ (.25mm)

NOTE.—Here again there may be a loss of .0015″ (.038mm) or .002″ (.05mm) if new blankets are fitted which should be made good.

One manufacturer uses bearer contact on all three cylinders. This is done on some models where the impression cylinder is recessed and fitted with a covering (either a blanket or a rexine) and underpacking. In order to accommodate stocks of varying thickness it is necessary to change the thickness of the underpacking. The advantage of this system is that whatever the thickness of the stock the gears remain in perfect pitch.

BEARER CLEARANCE PRESSES

This system is used on several presses where the cylinder bearers are machined to a little below the pitch diameter of the gear. The precise amount varies slightly from one machine to another but each individual machine specification specifies the exact gap between the bearers. The advantage of this system is that cylinders can be set to run precisely on