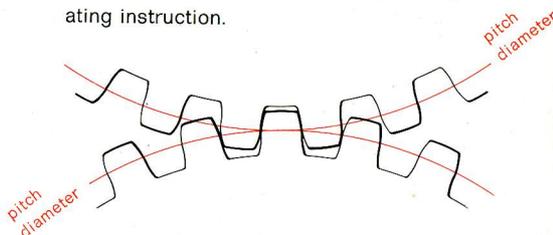


# Cylinder circumference and suitable cylinder packings

scales. For this reason the bearer rings of plate and blanket cylinders are precision-ground to pitch diameter. The cylinder surface, too, of the impression cylinder is at pitch diameter level, its caliper ring, on the other hand, has a diameter .028" (.7 mm.) smaller .014" (.35 mm. smaller radius). This makes it possible to set the blanket cylinder to up to .004" (.1mm.) below zero in relation to the impression cylinder when printing thin stock. All these values are provided in the cylinder packing tables in the operating instruction.



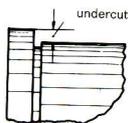
Toothed wheels interacting on pitch diameter

Plate and blanket cylinder packings are made up of printing plate respectively blanket including underlays, and their thickness is the packing thickness. This is independent of cylinder undercut and in the machine is always measured in relation to bearer ring height.

Correct cylinder setting to ensure precise cylinder circumference ratios is one of the basic requirements for perfect functioning of any offset printing machine. Correct cylinder circumference ratio is determined by the true rolling of plate, blanket and impression cylinders in relation to each other.

The Roland offset machine range exclusively employs the system of equal-size cylinders and this requires equal-size pitch diameters. The pitch diameter is the effective diameter of cylinder tooth wheels on which two toothed wheels roll against each other.

The pitch diameter forms the basis for all cylinder dimensions and in practice provides the zero point for all cylinder dial



The undercuts of the plate cylinders and blanket cylinders are different on the various types of Roland presses and corresponds with the measurements shown in the chart below.

machine model	undercut	
	plate cylinder	blanket cylinder
Favorit	.012" .3 mm.	.128" 3.25 mm.
Parva + Rekord }	.020" .5 mm.	.128" 3.25 mm.
Ultra	.026" .65 mm.	.163" 4.15 mm.