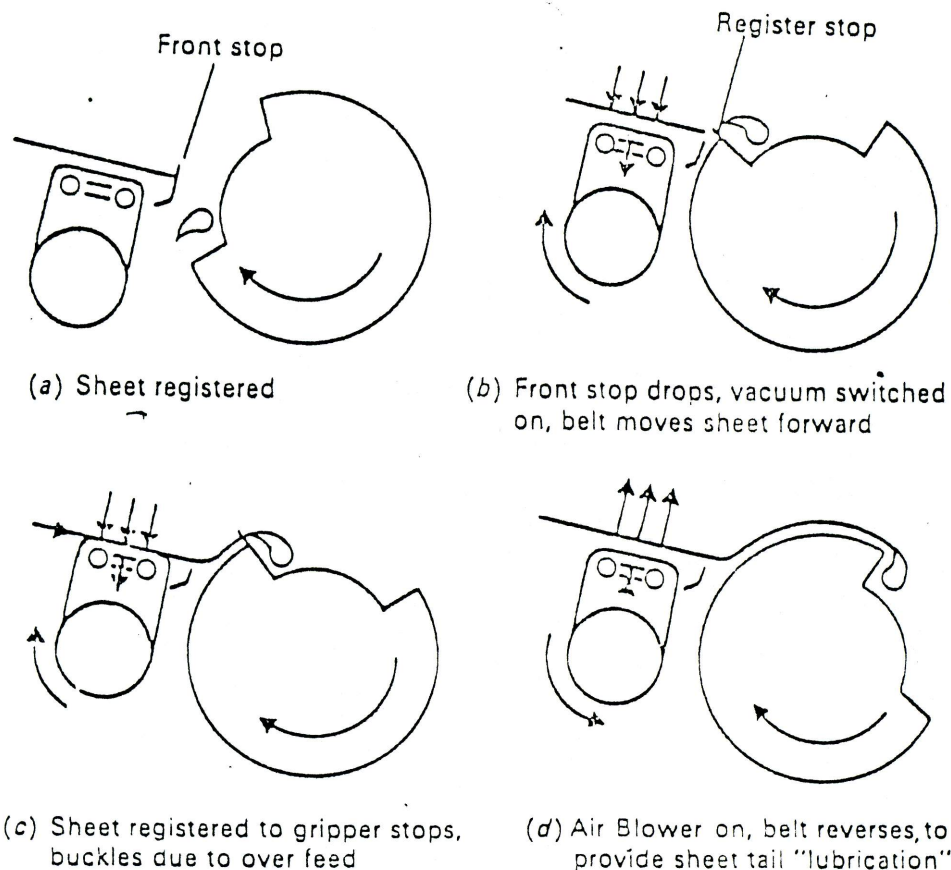


which has been raised into position by the return of the feed-plate. Another system using a similar principle has three sets of grippers built into the skeleton cylinder.

Roll-feed sheet insertion eliminates reciprocating motion almost entirely, and permits sheet registration against stops within the gripper system. However, as already noted, the sheet must come to rest for side-lay registration before the roll feed comes into operation. Front lays, usually non-adjustable, arrange for the sheet stop, then the side-lay operates, the front stops move away and the rolls come into operation. There are two sets, one above and one below the sheet, and these two grip the sheet and push it forward at a slightly higher surface speed than that of the cylinder. Guides ensure that the sheets are fed into the grippers, and the higher speed creates an "over-feed". This over-feed causes a small buckle in the sheet as it meets the gripper stops, and this ensures good registration (*fig. 142*). It is also possible to use a series of gripper stops (sometimes called gauge pins), and arrange these to "bow" the sheet edge to counteract "tail-edge fan-out" effects (*chapter 19*). A concave bow on the first printing followed by a straight edge for the second printing usually permits improved register at tail-edge corners.



*Fig. 143. Vacuum belt feed.*