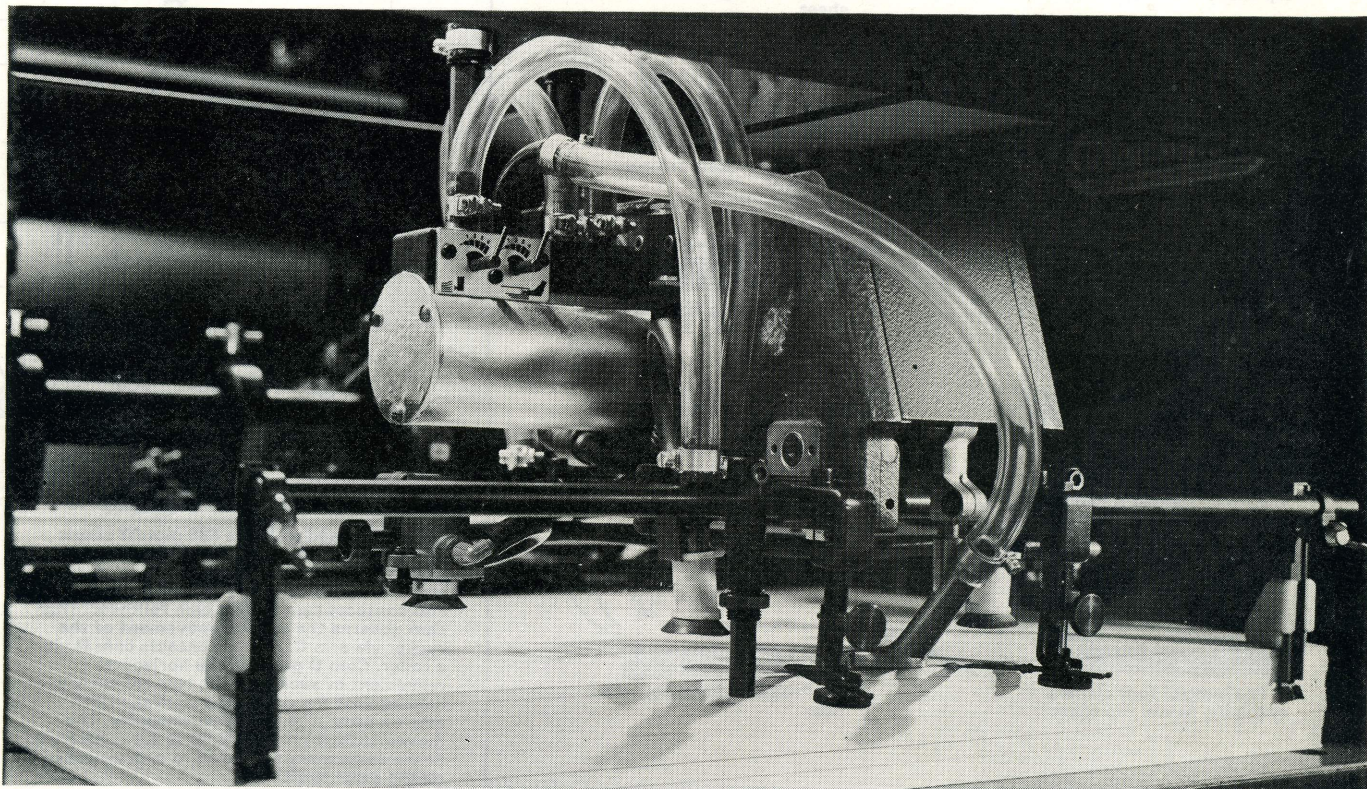


by W R Durrant

## The sheet separator

(b) back separation



OR HIGHEST SPEEDS of feeding and bigger sizes it is more efficient to separate the sheets from the back of the stack. Picking the sheets up from the back edge exposes the following sheet so that it may be lifted before the first sheet has passed. In some instances it is only necessary for the top sheet to move forward a few centimetres before the next is picked up. As a consequence the sheets will pass to the machine in a continuous, underlapped stream or shingle, which is the characteristic feature of the stream feeder.

Apart from higher speeds a number of other advantages accrue: The sheets will travel slower than on a single sheet separator which enables better control, particularly at the front lays where the slow approach allows more time for accurate registering.

As with front separation feeders there are two primary functions: air blast to separate the sheets, and suction for lifting and forwarding. However in both instances there is usually rather more complication than with the simpler front separation system.

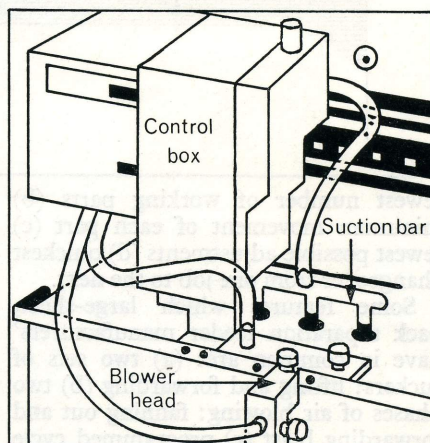
The original back separation feeders were quite complicated and slow running compared to modern feeders. A common feature was the pair of

combing wheels which dropped upon the ends of the sheet to scoop up a hump of paper for the suckers to pick up and forward. A variety of settings and adjustments was provided to allow for different calipers and substances of stock and the personal preferences of the machine printer, with the result that successful operation was a combination of slavish attention to the details of the instruction manual and individual flair on behalf of the printer. The absence of

either factor resulted in less than maximum feeding speeds.

Modern back separation feeders do not work from the ends of the sheets but are set in the centre of the pile. This reduces considerably the changeover time when changing from one sheet size to another. Mechanical functions are also reduced considerably in modern feeders as are the number of variable settings and adjustments. Feeder manuals are still available, but the emphasis is rather more on reducing the need to refer to a manual, by either standardising settings or providing pictogram references at the critical positions.

Above: back separation feeder on Heidelberg  
Below: the simplest feeder comprises a suction bar, blower head and control box



### Small-sheet separators

For smaller sheets a fairly simple arrangement can be made comprising one set of suckers plus an air blowing system. The Rotaprint Superfeed series is an example of an efficient back separation system. The separator head comprises a suction bar plus a set of blower nozzles all controlled by a cam box and a series of micro switches. The blower is positioned in the centre of the stack opposite the middle sucker and can separate sheets up to 380 × 508 mm. The suction bar contains three suckers, a few centimetres apart with