

# **OFFSET MACHINES PRACTICAL**

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**Ex no: 1: FEEDER SETTING IN SINGLE COLOR SHEET FED OFFSET MACHINE**

**Aim:**

To know the feeder setting in single color sheet fed offset printing machines.

**Feeder Board:**

This is the main device present over the pile board, the main function of the feeder head is to separate the sheet and pass them one by one to the print unit. In the feeder head suckers, blowers, sheet separations strips, brushes etc., are present and are adjusted for the correct passing of paper for printing.

Pile height governor governs the height of the pile during sheet suction while feeding. The devices have a sensor which senses the pile height. This is because needed for each and every sheet feeding from the pile board gap between the pile board and feeder head gets increased. The suckers suck the sheet by air suction and when the gap gets increased then suckers do not suck the sheets, so suckers must be kept in the correct distance in order to suck the sheet.

**Pile Setting:**

The pile in the pile board is centered in the board by folding the sheets in half and pile is positioned in the pile board by using scale in the facing plate of the feeder. After centering, side allowance of about 5mm should be allowed for the sheet into the center of the pile board opposite to the pulling of sidelay.

In the feeder head the suckers, blowers, strips, brushes, governor etc., are set over the pile of sheet in such a way that they help the suckers for the single sheet separation while feeding.

**Feeder Board Adjustments:**

Feed board is an intermediate device present between the pile board and printing unit which help to move the sheets from the pile board one after the other for printing unit.

In the feed board at the starting and finishing ends two rotating shafts are present which moves the endless tapes connected on its surface. Over the endless tapes the metal wheels, rubber wheels, ball smoothers, tape wheels, brush wheels etc., are present and they must be set in correct pressure over the tapes in order to transport the sheets into the printing unit. The endless tapes must also present in correct tension over the shaft for rotating the wheels present over its surface.

**Double Sheet Detector:**

The double sheet deflection is set by placing the sheets between the detector and a trip switch wheel, the double sheet detectors are set by placing three sheets between the detector wheel and a trip switch present into the feed board. When two sheets passes the detectors by overlapping the back edge, the detectors will allow to pass the sheets because of the gap set to three sheets. If more than two sheets pass the detector will trip the machine.

**Front Lay Adjustments:**

This is a device present in the last edge of the feeder board. In the machine the front lay which is pivoted below from the feeder board is present. The front lay pieces are adjusted to the size of the sheet to be printed. Mainly two or four pieces are required to position the of sheet registration.

**Side Lay Adjustments:**

It is a device which is used for the side registration of image in the substrate. In the sidelay a movable bar and a rotating wheel is present. The sidelay can be moved sideways in the bar and fixed in correct position for the required placement of image over the substrate. Due to the movement of the bar, the paper gets pulled and registered in the lay piece of sidelay.

**Types of Feeder:**

The feeder is divided two types they are,

Single sheet feeder

Stream feeder

**Single sheet Feeder:**

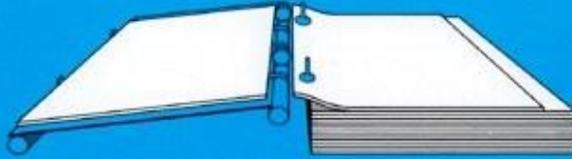
These are the feeder which feeds the paper single by single one after the other for printing. This feeder works by front separation principles. In this feeder the feeder head is present at the front edge of pile board. These feeders are present in mini offset machines.

**Stream Feeder:**

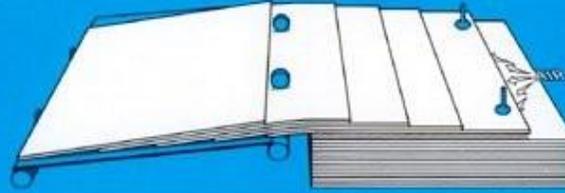
These are the feeders which feeds the sheets continuous to one over other in overlapping. These feeders works by back separation principle. In this feeder the feeder head is present at the back edge of the pile board. These feeders are fast when compared to the front separation feeders. Theses feeders are present in high speed machines and offset machines.

### Feeder systems

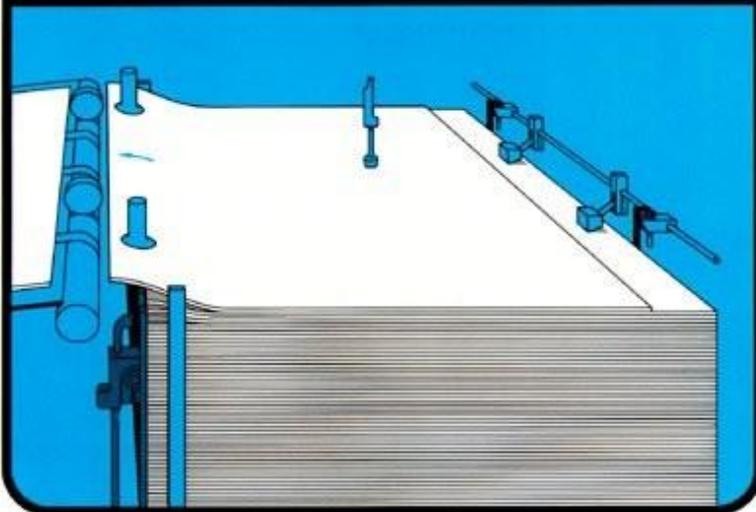
successive sheet feed

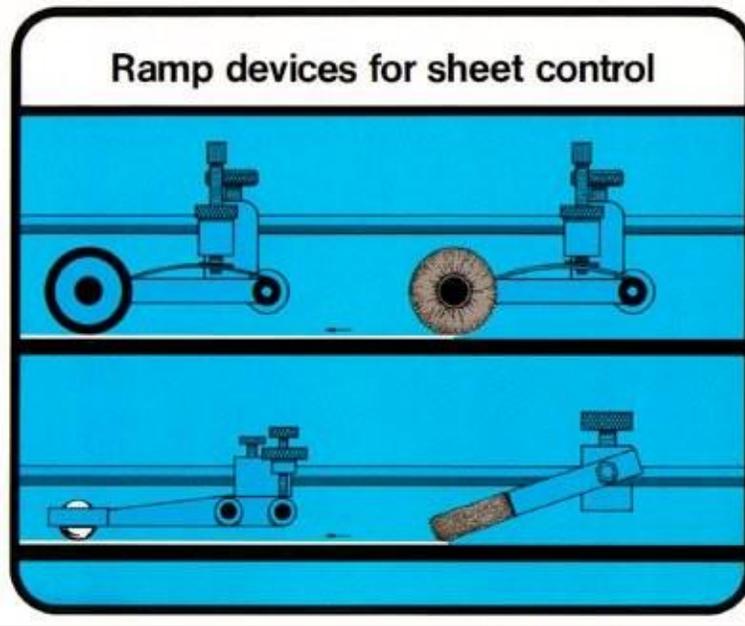


stream feed



### Successive sheet feeder with controls





**Conclusion:**

Thus we have known the adjustments of automatic feeders in single color sheet fed offset machine.