

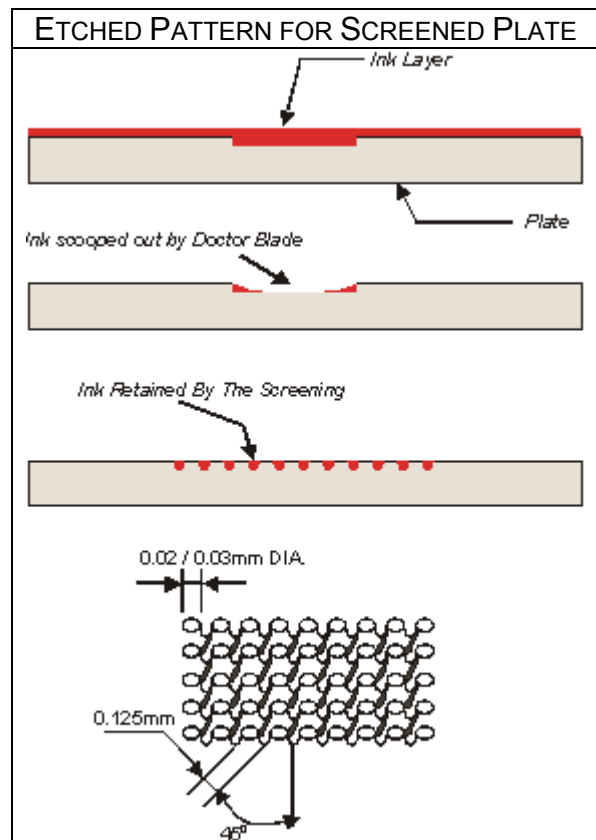
For those who have worked with open ink well pad printing machines for many years the closed cup system potentially provides a solution to the chore of setting up a doctor blade.

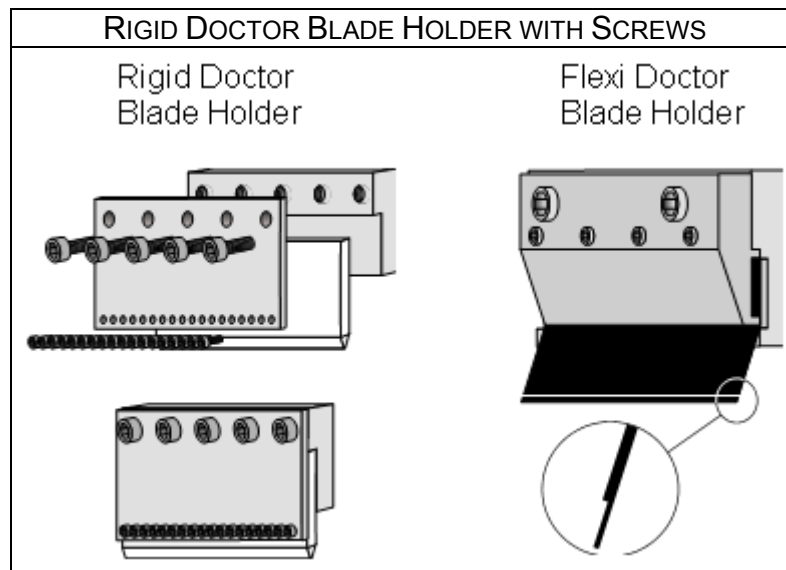
Wherever possible I would use a flexible blade (that is the type that is approximately 0.25 mm thick and then steps down to 0.1 or 0.06 mm at the contact edge). This type of blade needs minimum set up relying on its flexibility to clear the plate.

Unfortunately it is not suitable for larger open areas as it will dip into the etching and take out the ink. The solution to this is to use a plate where the image area is screened and the blade is supported by the plate material left image area. This is not always acceptable as the dot structure can sometimes show up in the print and the screening cannot be used.

Without screened plates you have to use a rigid blade, that has to be carefully adjusted to remove ink from the surface of the plate and yet not dip into the etching. And there's the rub!

The blade must be carefully fitted into the holder and, if new, honed with a fine honing stone, typically Arkansas stone. This is run along the very edge of the blade at right angles to it. The aim is to remove the very sharp edge and provide as smooth a contact as possible. Be careful! Having done this the blade holder has to be mounted on the machine and carefully adjusted so that it clears the plate. It is this adjustment that is rather testing. Grown men have been known to cry. The blade holder not only clamps the blade but it has a line of screws that can be adjusted press on the blade and deflect it. It is this deflection that alters the contact with the plate. There can be up to 50 deflection screws in the blade holder (depending on the length of the plate).





The blade is moved backwards and forwards across the plate with the screws just touching the blade. The setter should look at the ink on the plate to see if the blade is parallel to the plate. If it is not adjust it. Once happy that the blade is parallel with the plate but there is still ink left on the plate other than in the etched areas, it is necessary to make the fine adjustments by deflecting the blade. If the ink is left in one position on the plate place the allen key or screw driver in the adjusting screw above the line of ink and turn clockwise very gently. Cycle the blade forward and back see the result. If the excess ink is removed and no more has appeared give thanks and don't touch anything else. It may however reduce slightly in which case turn a fraction more. If you are heavy handed you will distort the blade badly and the problem will move to somewhere else on the plate. If when you first set the blade parallel to the plate and there are areas of ink on the plate all over. Increase the pressure on the blade. Not too much though otherwise you will damage the plate and the doctor blade. If this still does not clear the plate start in the middle of the blade and turn the central adjusting screw very slightly clockwise. Then adjust the screw to the left of it and then to the right. Work your way outwards from the centre making small adjustments to each adjusting screw. As you do this the ink should clear. The skill is in using just enough turn to clear the plate. If it starts to go wrong stop, take the adjusters back to their original position where they are just resting on the blade and start again. Always make sure the blade holder and blade are clean. Be gentle. Take care when initially honing the blade. To start with it can be as sharp as a razor and excessive amounts of blood will ruin the ink!