

## Photocopied Signatures

Tremors in Handwriting and Signatures can appear as shaky irregular strokes caused by unnatural slow pen movements due to conscious attention to letter forms rather than appearance spontaneous natural writing.

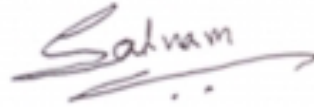
The accuracy of a Photocopier is off by 1/2% to 1%.

Photocopied Signatures can reproduce a false conclusion of being a fake signature. The reason is that Photocopiers are not able to reproduce accurately where there are natural breaks in the strokes due to the non deposition of toners.

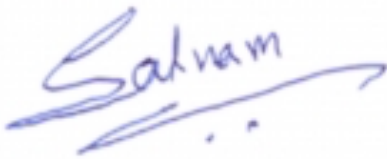
With an Ink JetPrinter the copy it will appear worse.



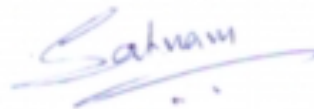
***Bad Quality Photocopy  
Showing Tremors***



***Good Quality Photocopy  
Showing Tremors***



***Original Non-Genuine Tracing  
by Transmitted Light***



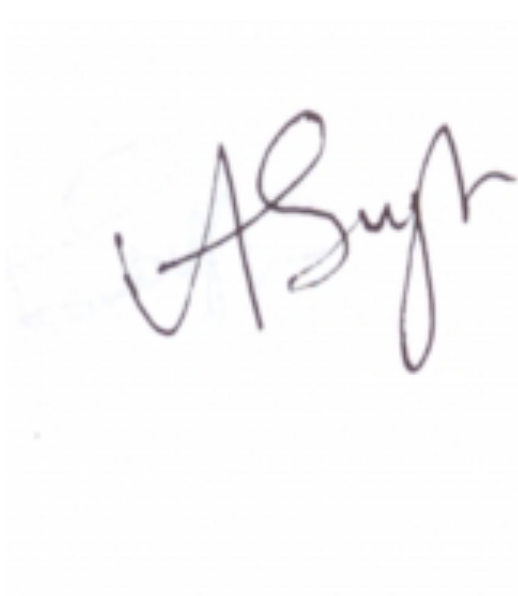
***Original Genuine Signature  
used as a Model***

## **Abrupt Direction Change in Strokes**

Signatures that are forged show uncertain movements and abrupt change in the direction of the ink line.

## **Pen Patching**

Pen Patching is the retouching of a portion of a written stroke. Good quality photocopies will show pen patching. Bad quality photocopies will not reproduce this feature.



***Good Quality Photocopies  
Showing Pen Patching***



***Bad Quality Photocopies  
Showing Pen Patching***

## Pen Skipping / Pen Lift

It is an interruption in a stroke caused by the removal of the writing instrument from the surface of the paper. It can be a normal habit of the person, but sometimes a pen was lifted at an unnatural place and then the individual tried to keep the pen at almost the same place and again started the stroke.

Pen skipping is a break in the inked stroke either due to a high speed of writing or the ink did not fill in the stroke seen though the groove is present. This is typical of Ball Point Pen writing.

In Photocopies, un-inked or break in the ink lines it is not possible to ascertain if the hiatuses are because of unnatural pen lifts or because the nature of the writing pen.



Baljit Singh

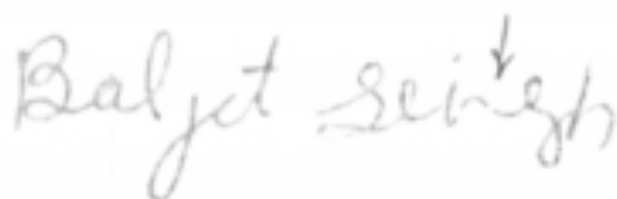
Baljit Singh



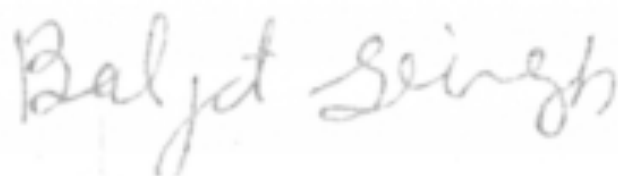
***Unnatural Pen Lifts in the Original. Non-Genuine Signatures***

## Concealed Pen Lifts

In some signatures concealed pen lifts can appear like continuous strokes because of the artifacts that are added due to the process of a JPEG Photocopy.



Baljit Singh



Baljit Singh

*Showing Pen Lifts in the Non-Original, Non-Genuine signatures  
The lower signature continuity of the stroke shows added artifacts*

## Pen Pause and Ink Gooping

A stop or hesitation in the motion of a signature where the pen remains in contact on the paper will appear as a peculiar feature of forgery. Ink Gooping or blobing is when extra ink is deposited along the main line stroke in Ball Point Pen writings. It can be easily detected in an Original. However, in a Photocopy the ink gooping or blobing can be misinterpreted as hesitation or pen pause.

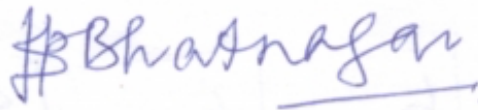
## Letter Forms

A forger will try to imitate the design of the letters like a draftsman doing a drawing.

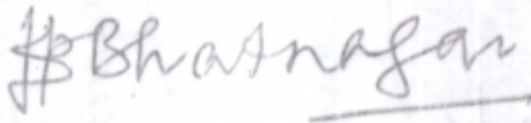
In Photocopies, imitated or traced letter forms can not be ascertained.

T Crossings and i-dots. Bad quality photocopies will have loss of details.

Good quality photocopies will show their shape and place and can be ascertained.

A handwritten signature in blue ink that reads "#Bhasnagar". The letters are fluid and connected, with a distinct underline. The ink shows natural variations in thickness and some slight blurring at the ends of strokes.

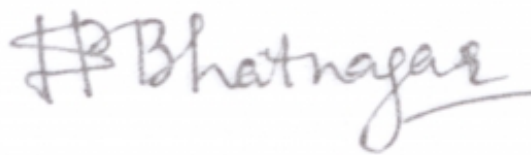
*Letter Forms in Original Genuine Signatures*

A photocopy of the signature "#Bhasnagar". The lines are much thinner and more uniform in thickness than the original. The fluid, connected nature of the letters is lost, making the signature appear more like a series of separate, drawn-out strokes.

*Letter Forms in Non-Original Genuine Signatures*

A handwritten signature in blue ink that reads "#Bhatnagar". The letters are fluid and connected, with a distinct underline. The ink shows natural variations in thickness and some slight blurring at the ends of strokes.

*Letter Forms in Original, Non-Genuine Signatures  
The Formation of Strokes is different from the above Original  
Genuine Signature*

A photocopy of the signature "#Bhatnagar". The lines are much thinner and more uniform in thickness than the original. The fluid, connected nature of the letters is lost, making the signature appear more like a series of separate, drawn-out strokes.

*The Formation of Letters cannot be made in Non-Original  
Non-Genuine Signatures*

## **Tracing Lines**

Tracing lines and guide lines are one of the most important features in detecting a traced forgery. The tracing can be of tracing paper or carbon paper. However, in photocopies this feature will reproduce by good quality or bad quality photocopier.

The problem with photocopies is that they can be very easily misinterpreted and not detected accurately. Each photocopy must be examined on its own merit depending upon the image quality and resolution.

Submitting a poor quality photocopy is a disgrace and a disservice. The submission of a poor quality photocopy being claimed it is a true and accurate copy of an original is a Red Flag.

## **Conclusion**

With any Photocopy there is very high probability of fabrication and must be considered to be an easy way to create a fake document with modern photocopiers, scanners and software to produce a forged document.

The features like pen lifts, pen skipping, pen patching is more commonly misinterpreted. Features like traced guideline cannot be reproduced in photocopies. So each photocopy must be regarded as very high in suspicion, and it must be examined carefully on its own merit.

Depending on the image quality and resolution. If photocopies are bad quality, it is best to obtain the originals or get high resolution photocopies at 300dpi Full Color and Save in a TIFF file format.