IA3: Photocopiers and Other Office Machine Systems

I. INTRODUCTION

Photocopiers and other office machine systems such as laser printers utilize toner as a printing medium. As with any mechanical device, use may cause wear and damage to the working parts that can lead to the appearance of individual defects on a copy produced with a given photocopier. Identification of a photocopier, or two photocopies having a common origin, requires that the class characteristics are similar and that there are enough individual characteristics for comparison and in agreement. A photocopier may also be identified if there exists on the copy a unique security code.

II. INSTRUMENTATION

Magnification (i.e. Hand Magnifier and Stereo Microscope), adequate light source and alternate light sources (See Appendix VI).

III. MINIMUM STANDARDS & CONTROLS

See Appendix I.

IV. EXAMINATION PROCEDURE

This procedure can be used for comparing known photocopies to questioned photocopies or comparing two questioned photocopies for common origin.

A. Conduct a paper examination to determine whether or not they are consistent. See Paper SOP.

B. Examine and compare class characteristics which would include but are not limited to the following:

1. Picker bar marks
2. Roller marks
3. Type of toner and application:

    a. Color v. black toner
    b. Dry toner applied using heat, pressure or heat and pressure
    c. Liquid toner

C. Examine and compare individual characteristics or “trash marks” which can be caused by defects on machine parts to include:

1. Glass platen
2. Photodrum
3. Lens
4. Copier lid
5. LED’s

D. Examine color copies for a security pattern that is applied by some higher quality photocopiers and laser printers. This security feature consists of a pattern of yellow dots created by the photocopier with toner, and is found throughout the photocopy produced. This pattern is specific to a machine and is visible with alternate light sources.

E. Render conclusions based on examinations conducted in report form. The opinion terminology should be consistent with the terminology used for handwriting comparisons that is found in Appendix II.

1. Identification – The examination revealed significant agreement in the individual characteristics with no inexplicable differences.
2. Elimination – The examination reveals significant differences in the individual and/or class characteristics present.
3. Qualified Opinion – If the examination reveals limiting factors in the differences or similarities present a qualified opinion may be rendered. Qualified opinions must include the limiting factors in the report.
4. Inconclusive – If the examination reveals significant limiting factors then an opinion of no conclusion can be reached may be reported. Inconclusive opinions must include the limiting factors in the report.

REFERENCES

1. ASTM E 1658-04, *Standard Guide for Expressing Conclusions for Forensic Document Examiners*
2. ASTM 2389-05, Standard Guide for Documents Produced with Liquid Ink Jet Technology
3. ASTM 2390-06, Standard Guide for Documents Produced with Toner Technology
4. Kelly, J. S., Lindblom, B. S., *Scientific Examination of Questioned Documents*, Taylor & Francis Group, Boca Raton, FL, Chapters 16 - 19.
5. Saferstein, R. *Forensic Science Handbook;* Prentice-Hall, Inc., Englewood Cliffs, NJ, 1982; pp. 705-703.
6. Questioned Document Section Article Library

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2nd Revision	6/2/11	Added Division to Header and Issuing Authority to Footer
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