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| ATF-LS-QD3 Typewriter Ribbon Examinations | Published Online: March 2018 |
| Authority: Technical Leader | |
| Unofficial Copy; May Not Be Most Current Version | Page: 1 of 2 |

PRINCIPLE:

To locate a questioned typewritten text on a single-strike carbon typewriter ribbon, and link it to a particular typewritten impression on a document.

SPECIAL HANDLING:

The ribbon should be held with the tips of the fingers trying to avoid areas where typewritten impressions are located. Ribbon should not be stretched or pulled.

SPECIMEN(S):

Typewriter ribbon containing questioned impressions

SUPPLIES REQUIRED:

Paper, pen

APPARATUS REQUIRED:

Stereoscopic microscope, hand magnifier, transmitted light box

CALIBRATION REQUIREMENTS:

Microscope maintained in house.

No calibration beyond routine maintenance is required.

PROCEDURE:

1. Remove ribbon cartridge from typewriter.
2. The cartridge is marked with the appropriate item number as listed on the laboratory transmittal sheet. After the ribbon is removed from the cartridge and read the cartridge and ribbon are placed in an envelope which is labeled with the item number, case number and the examiner's initials or other mark. Items on the transmittal sheet may be amended by adding "Q" and "K" identifiers. Such amendments should be notated on a copy of the transmittal placed in the case jacket and the contributor should be notified via phone or email.
3. Remove ribbon from inside cartridge.
4. Unwind ribbon from reel.
5. Scan the ribbon for the questioned typewritten text.
6. If the questioned text is located, examine the carbon transfer from the ribbon to the paper and/or the paper fiber images on the ribbon using a stereoscopic microscope.
7. Make written notes of the similarities and/or dissimilarities.
8. Formulate a conclusion based on all the evidence examined.
9. A complete technical review is conducted by another qualified examiner and documented and

initialed on Technical Case File Review Form.

10. Record findings in written form and have the results recorded on a formal laboratory report.
11. If the questioned text is located on the ribbon, that section of the ribbon should be transcribed into the final report.
12. The bases and reasons for the conclusion(s), opinion(s), or finding(s) should be included either on the examiner's worksheet or on photocopies and may be also included in the report.

DOCUMENTATION:

Work notes on which the examiner marks similarities and dissimilarities together with the written observations of the examiner. Photographs should be made of the questioned entries on the ribbon. A Questioned Document Worksheet will accompany each case and should include the equipment and/or procedures used, the identifying or eliminating features, and the results of analysis.

REFERENCES:

Hahn, G. H. "Paper Fiber Impressions in Carbon Type Ribbons" *Journal of Forensic Sciences*, Volume 19, Number 1, January, 1974.

Hilton, Ordway, *Scientific Examination of Questioned Documents*, Elsevier Science Publishing Co., Inc., New York, New York, 1982.

Hilton, Ordway, "Identifying the Typewriter Ribbon Used to Write a Letter, A case Study Employing New Techniques" *Journal of Criminal law, Criminology and Police Science*, Volume 63, Number 1, March, 1972.

Osborn, Albert S., *Questioned Documents*, Nelson-Hall, Inc., Chicago, Illinois, 1929.

SWGDOC Standard Guide for Examination of Fracture Patterns and Paper Fiber Impressions on Single-Strike Film Ribbons and Typed Text

Various professional papers written on various aspects of typewriter ribbon examination.