



## **Latent Print Section**

# **Equipment Maintenance & Performance Checks**

Comparative & Analytical Division



## 1. Equipment Maintenance and Performance Checks

### 1.1 Scope

- 1.1.1 This procedure details the requirements for the maintenance and performance checks of the equipment used by the Latent Print Section of the Houston Forensic Science Center (HFSC).

### 1.2 General Procedures

- 1.2.1 All equipment shall be purchased from a reputable manufacturer or vendor.
- 1.2.2 Before being placed into service, equipment is **calibrated**, or performance checked to ensure it meets the testing/analysis requirements.
- 1.2.3 Manuals, instructions, and other documents necessary for proper operation of equipment **should** be stored with the equipment or in an accessible location.
- 1.2.4 **The Latent Print Section does not have any critical equipment.**
- 1.2.5 Disposable equipment, if used, shall be used one-time only.
- 1.2.6 Equipment requiring periodic performance checks will be uniquely identified and labeled so that records can be traced to the equipment.
- 1.2.7 **Any equipment utilized to aide in the development of latent prints are inherently checked when reagent controls are conducted.**
- 1.2.8 **Any equipment that has been subject to overloading or mishandling, gives unexpected results, or has been shown to be defective or outside specified limits, will be taken out of service until it has been repaired or adjusted and verified that it will perform correctly. The date and reason the equipment is out of service and its resolution shall be maintained.**
- 1.2.9 **All equipment used for the processing of evidence is to be maintained in proper and safe working order.**
- 1.2.10 Records associated with section equipment, where applicable and appropriate, should include the following:
- Identity of the equipment and its software.
  - The manufacturer's name and serial number or other unique identifier.
  - Dates, results, and copies of reports and certificates of all calibrations, and due dates of next calibration or verification.

### 1.3 Equipment

- 1.3.1 **Balances** – Balances are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory.
- 1.3.1.1 **Performance checks are not required each month if the balance is not used monthly. Balances shall be performance checked prior to use if one has not been conducted for that month.** Balances are considered operational if the testing weight used is measured +/- 0.03 gram of the expected weight.
- 1.3.2 **Weights** – **Weights used by the Latent Print Section are non-standard reference weights. Weights are verified utilizing weights and balances externally calibrated in the seized drugs section.**



- 1.3.3 Oven – The oven is routinely used in the chemical processing of porous evidence and is inherently checked when controls are run during the reagent testing procedure.
- 1.3.4 Humidity Chamber – The chamber is routinely used in the chemical processing of porous and/or semiporous evidence and is inherently checked when reagent controls are conducted.
  - 1.3.4.1 Manufacturer recommendations for maintenance should be performed annually.
- 1.3.5 Fume hoods and the CA 9000 Superglue Chamber – are verified annually in accordance with the Quality Manual.
- 1.3.6 Digital Imaging Equipment – If a scanner, digital camera, monitor, or photographic enhancement software isn't functioning properly it will be removed from service until it can be repaired/replaced.

#### 1.4 References

SWGFAST, *Document 6, Standard for Friction Ridge Impression Digital Imaging (Latent/Tenprint)* Ver 2.0, 03/13/13.  
Defense Forensic Science Center, *CILA LP 5.5 Equipment*, 11 March 2014.

#### 2. Wording Removed from previous versions

Clause	Wording Removed
1.2.3	In accordance with the HFSC Quality Manual, Critical equipment is any piece of equipment that must be maintained in proper working order to ensure the reliability of results produced using it.
1.2.8	The following equipment does not require performance verification:
1.2.8.1	General-Use/Volumetric Equipment – Visual exam and cleaning at time of use. No records are required.
1.2.8.2	Scales – Scales are used for subsidiary measurements and are not critical equipment therefore have no effect on the accuracy or validity of the ACE-V methodology. Adhesive and rigid scales for photography are sufficient and require no validation or performance check. Scales are not considered critical because they do not affect the scientific methodology of analysis and comparisons of latent impressions. A latent print needs to be able to be re-sized to 1:1 or near 1:1 for entry into AFIS.
1.2.9	according to the following schedule
1.2.9.1	Oven will be performance checked monthly and a log will be kept of the results.



**Latent Print Section**  
**Equipment Maintenance & Performance Checks**  
Comparative & Analytical Division

1.2.9.1.1	To performance check the oven, turn the oven on and let it heat to the preset operating temperature. Observe the temperature displayed on the oven's external digital display and compare to the thermometer inside the oven. If the oven is operating within +/- 5°C, the oven is within tolerance. If the oven is outside of tolerance, refer to the operation manual to adjust the oven. If the oven cannot be adjusted, the Latent Print Manager must be notified to coordinate repairs. If the equipment is not performing correctly it will be labeled as out of service, along with the processors/examiners initials and date it was removed from service.
1.2.9.1.2	See manufacturer's operation manual for correct operation of the oven.
1.2.9.2.1	In accordance with the HFSC Quality Manual, balances will be performance checked at least once monthly and a log will be kept of the results.
1.2.9.3	No records are required. Fume hoods and the CA 9000 Superglue Chamber are calibrated and maintained annually by an external ISO/IEC 17025 accredited calibration laboratory. Documentation of the service will be displayed on the external surface of the respective hood or superglue chamber. Equipment is maintained through visual examination and function check at time of use.