Major Case Prints

The purpose of major case prints is to record all of the friction ridge detail on the hands so that complete finger and palm print comparisons can be completed. This includes the fingers, fingertips, finger joints and edges of the fingers as well as the entire palm. Major case prints should be taken of all felony suspects and victims of homicide.

Major case prints were traditionally taken by inking all friction ridge skin on the palmar surface of the hands and transferring the detail to a white card (ink method). In more recent years, the powder and tape method has been used and is the preferred method at the Laboratory. Both methods are addressed in this chapter.

I. Powder & Tape Method

Equipment Needed
- Black powder (traditional or magnetic)
- 1.5” – 2” & 4” clear tape (flexible polyethylene tape works well)
- Fingerprint brush or magnetic applicator
- 8” x 10” or larger clear acetate sheets

Fig. 14-1 Equipment

Recording the Fingers

1. Black fingerprint powder is lightly applied to all surfaces of the fingers and palms (see Fig. 14-2). Note: A very light application of powder works best.
2. Using a 2 - 3 inch length of clear 1.5” – 2” tape, begin at the tip of the finger and attach the end of the tape to the nail bed. Be sure to leave enough tape to wrap around the sides of the tip and the finger.
3. Smooth the tape down the length of the finger towards the palm (see Fig. 14-3).
4. Release the top edge of the tape from the nail bed and
smooth the edges of the tape around the tip and sides to cover all of the ridge detail. Make sure to press the tape into all areas of the tip as it starts to fold.

5. The tape is then lifted and attached to the clear acetate

6. Be sure to label each fingerprint on the acetate and repeat the above procedure until all fingers have been clearly recorded. (See Fig. 14-4)

Fig. 14-2  Lightly dust fingers with black powder.

Fig 14-3  The dusted finger with tape attached. Be sure to cover the very tip and sides of the finger. Run the tape carefully down towards the palm.

Note: It is sometimes difficult to record all of the friction ridge detail from the fingers in one lift, particularly the tips. Be sure to examine your lift and note any missing areas so they can be recorded with an additional lift(s). This lift(s) can be added to the same clear acetate sheet if space allows.
Fig. 14-4 Attach the tape to clear acetate. Be sure to label each fingerprint.

*Note: Friction ridge detail recorded using tape is in a reversed position when attached to acetate so be sure to label it accurately.*

**Recording the Palms**

1. Lightly brush the palms in the same manner as the fingers (see Fig. 14-5).

2. Using 4” tape, smooth the tape onto the palm from the bottom of the fingers to the wrist. **Note:** You can also use 2 or 3 strips of 1.5” – 2” tape in overlapping strips to cover the entire palm (see Fig. 14-6).

3. Any areas not covered by the tape can be covered with additional overlapping tape. The tape should overlap enough to allow the removal of all pieces of tape as one lift.

4. Be sure to wrap the ends of the tape over the edges of the palm so that all friction ridge detail is recorded.

5. Care should be taken depositing the lift onto the clear acetate to avoid creases (see Fig. 14-7).

Fig. 14-5 Lightly dust the palm with black powder.
Fig. 14-6 Smooth strips of 1.5” to 2” tape (or 4” tape) over palm, covering the entire area from the bottom of the fingers to the wrist.

Fig. 14-7 Attach tape to clear acetate taking care to avoid creases.

This process is repeated until clear and legible prints are obtained for all ridge detail of the fingers and palms.

**Benefits of the Powder and Tape Method**

1. Less time to complete than inked major case prints.
2. Limited clean up.
3. Powder covers ridge detail more evenly.
4. No rolling of fingers or palms to cause smearing.
5. Gives greater detail in one recording.
II. Ink Method

Equipment Needed

Standard tenprint/palm print cards (8” x 8”) or other clean white recording surface
- A roller for spreading ink on the fingers and hands
- Black printers ink
- A cylinder, 3” or more in diameter for rolling palms

Recording the Fingers

1. The first step to taking major case prints is to roll a standard tenprint card (see Fig. 14-9). Each finger should be rolled from nail edge to nail edge to obtain the entire width of the pattern area. Care should be taken to also include as much of the tip and the first crease as possible.
2. After the tenprint card has been properly recorded, the entire finger is then inked for recording the inner, middle, and outer edges, and the tip of each finger. This step will require the use of at least two 8” x 8” cards (see Figures 14-10 and 14-11).

3. Starting with the thumb, the outer edge or side of the inked thumb is placed on the card and rolled 45° inward towards the middle.

4. The middle area of the thumb is then placed on the card next to the rolled outer edge.

5. The inner edge of the thumb is recorded in the same manner as the outer edge.

6. The thumb is then completed by recording the tip area, placing it on another sheet (as in Figure 14-11) or above the previously recorded edge areas.

7. Be sure to label each finger on the acetate and repeat the above procedure until all fingers have been clearly recorded.

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**Fig. 14-10 and Fig 14-11** Outer, middle, and inner edges of fingers and thumbs
Rolled tips of fingers and thumbs

**Recording the Palms**

1. Attach an 8”x8” card to the cylinder using rubber bands on each end to avoid movement during rolling.

2. Apply a thin layer of ink to the palm and fingers (see Figure 14-12).
3. Roll the hand onto the 8” x 8” card attached to the cylinder. The wrist area of the palm is placed onto the bottom edge of the card and rolled gently backwards towards the body (see Figure 14-13). A hand placed on the back of the palm, using a slight downward pressure, will help ensure the entire palm is recorded properly.

4. The outer edge of the palm is then recorded on the card (see Figure 14-14).

5. The palm is completed by rolling the inner edge of the palm on the card (see Figure 14-15).

This process is repeated until all friction detail is recorded and the prints are clear and legible (see Figure 14-16).

**Fig. 14-12** Ink the palm and fingers with a thin uniform coat.

**Fig. 14-13** Place the palm of the hand on the cylinder and roll the hand to the fingertips maintaining pressure on the hand.
Fig. 14-14 and Fig. 14-15 The outer edge of the palm is recorded, and the inner edge of the palm is recorded.

Fig. 14-16 Ridge detail of the palm is recorded from the base of the palm to the fingertips and both the inner and outer edges of the palm. A sheet of paper can be used to protect the rest of the document when recording the inner and outer edges of the palm.

**Drawbacks of the Ink Method**

1. Hard to apply an even coating of ink to all areas of hands and fingers can produce uneven results.
2. Rolling of hand often introduces slippage – duplicate cards must be taken until documented properly.
3. Requires equipment not always available to the scene technician.
4. Movement can affect the quality of the prints.
5. Can take 45 minutes to an hour to complete.
Examples Illustrating the Two Methods

**Note:** The powder/tape method results in a larger amount of clear detail from all areas of the fingers and the palms and generally allows for more complete comparisons.