TOOL MARKS
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• INTRODUCTION

• TYPES OF TOOL MARKS.

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Tool mark is defined as the impression left by the contact of a tool or similar object on to a surface.

It is a print / impression punched/ engraved/ moulded mark on a surface.

It may be due to an impact, abrasion, cut, insertion, engraving or graving.

The depth and clarity of tool mark depend on the force and the angle at which the tools meet the object and the nature of the contacting surface.
It may transfer or exchange of material trace with the surface taken place.

Tools leave distinctive marks because they are generally made of metals harder than the surface with which they normally comes in contact.

Sometimes the impacted surface is hard, it may also damage the tools and creators its marks on the tool.
Tool marks which are cut marks, drill marks, stuck marks, leaving marks, shear marks, depressed marks, etc.

Tool marks are more/less permanent, hence the same can be used to link the criminal with the crime scene even after a long time.

Tool marks are considered as a physical evidential clue.

Some tools are knives, razor blades, axes, hammers, screwdrivers, spades, or sharp metallic compounds.
SOME TOOLS...
TYPES OF TOOL MARKS

A  . Sliding tool marks

B  . Indentation tool marks.

C  . Cutting tool marks.
A. SLIDING TOOL MARKS

- It is created when a tool slides along a surface.

- When the tool makes sliding contact with the recipient surface, it creates striations/scratches on the surface.

- E.g. when a bullet of appropriate diameter passes through a rifle barrel, the barrel creates striations on the bullet. This striations are used to link the rifle with the bullet.
CONTINUE..

- Sliding contact of a tool with the recipient surface creates marks/striations.
- All types of tools create scrape marks (striations) in sliding contact, prominently the following tools:
  A. Cutting tools like swords, knives, axes, shears, wire cutter, scissors.
  B. Can opener and screw drivers.
  C. A moving vehicle is scratched when it slides along a protruded object like pieces of projected stones, bricks, metals or wood.
B. INDENTATION TOOL MARKS

- An indentation is caused by a tool when it pressed upon a surface without sliding motion i.e., by the static impact.

- The mark contains the outline of the tool surface with its irregularities which comes in contact with the impacted surface.

- The transfer of mark is often partial.
CONTINUE...

- The clarity and individuality of the mark depends on the surface of the tool, the force of impact of the tool, the force of impact and the nature of the recipient surface.
- Hammer, punches, Metallic seals and stamps, stones, bricks and other articles used to cause impacts.
- It is helpful in most cases to connect a tool positively with an indentation left at the scene of occurrence, which decisively link the criminal with the crime.
C. CUTTING TOOL MARKS

- It is a combination of indentation and sliding tool marks.

- Cut marks are created by sharp edged tools / weapons like sword, knife, axes, Scissors, wire cutters, Shears and pliers.

- These tools generally creates striations and which are unique to each tools.

- They are found in all sorts of crimes, more frequently in theft cases and sometimes in murder case also.
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CLASS CHARACTERISTICS OF TOOL MARKS.

- It identify the class of the tool to which the tool belongs.

- It indicate the type but do not identify the individual tool.

- The main advantages is that they limit the tools to one class.
INDIVIDUAL CHARACTERISTICS OF TOOL MARKS

- Individual marks are unique to the tool used.
- It permits definite linkage of the tool with its criminating marks and consequently with the perpetrator of the crime.
- The individuality of the tools is due to manufacturing defects, accidental damage to the tool.
THANK YOU