

TOOL MARKS

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INTRODUCTION

- ❑ 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.

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- ❑ 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 creates its marks on the tool.

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- ❑ 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 long time.
- ❑ Tool marks are considered as a physical evidential clue.
- ❑ Some tools are knives , razor blades, axes, hammers, screwdrivers, spades or sharp metallic compound.

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.

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- ❖ 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 is 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.

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- ❖ 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 in
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**