Tire Impression and Tire Track Evidence Notes – chapter 20

Overview:

What is a tire impression?
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What is a tire track?
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Why do we care about this type of evidence?
To help

Background info on tires:

Tires come in _____ of _____ and numerous _____.

Tires on _____ vehicles are known as _____ _____ (OE) tires.
Importance = the same _____ and _____ vehicles will have the _____ tire _____and _____

Tires purchased to _____ worn down or _____ tires are called _____ tires.
Importance = _____ tires are usually _____ the same _____ as OE . . . so a vehicle with 3 or 4 replacement tires, each of _____ design, sets up a _____ situation

Tire construction:
Tires are made of various compounds of _____, _____, and _____.
The tire is constructed _____ any design first (_____ tire). Then placed in a _____ where _____ and _____ designs are added.

Tire tread and sidewall components:

_____ design components—can be associated with a _____ name and _____
Sketch figure 19.3 in textbook on page 379. Be sure to indicate the following points: centerline, rib, groove, slot, design element, sipe, and tread wear indicator

S_____ components—

- _____ side (face _____)
- _____ side (face _____)

Information important to investigators

- Tire _____ and style name (_____ sides)
  Ex. Michelin XM+S 244
- Tire _____ (_____ sides)
  Ex. P195 75/R15
- D_____ of Transportation (_____) Number (_____ side)
  Begins with _____
  Next = symbols for _____ and plant code (where it is _____)
  Next = 3 or 4 numbers that represent _____ and _____ tire manufactured (ex. 4901 = _____ week of _____)
- NOTE: some tires are _____. These tires will have a _____ number.

Noise Treatment:

- As tires _____ the design elements _____ and produce _____.
- If all _____ were the same _____ (which relates to pitch), the noise would be very _____.
- _____ _____ = tire industry creating tire designs that _____ the size of the design elements around the tire.
  (See figure 19.6)

Tread wear indicators:

_____ bars—indicate when tire should be _____
Important in _____ = can be retained in _____ impressions

Tire Track Evidence:

Includes tire track _____, _____ dimensions, and turning _____

- Tire track width = measurement made from _____ of one _____ or impression to _____ of the opposite (NOTE: _____ vehicles can share the same)
- Wheelbase dimensions = the measurement between the _____ of the _____ of the front wheels to the _____of the _____ of the rear wheels (NOTE: _____ is enough info detail retained at scene to _____ this measurement)
- Turning diameter =diameter of the _____ a vehicle makes when steering wheel is _____ turned. (NOTE: can _____ be used to _____vehicles that _____ turn at least that _____)

Recovery of Tire Evidence:

First = _____ crime scene photographs (_____, from many angles), and notes (_____ of tracks, _____ to one another, _____ of travel)

Then = examination _____ photograph
. . . this is done in _____ manner as _____ evidence EXCEPT for _____ tire impressions . . . longer impressions taken as sequentially _____photos.
(NOTE: all photos should be taken with _____ or other size reference device placed _____ to, NEVER _____, the impression)

Then = _____
. . . any impression _____ ft or smaller should _____ be cast
. . . often, cast offers _____ physical evidence for later _____ with a tire

Tire Evidence Examination:

First the _____ will be compared with . . .
_____ tires
1. _____ vehicles . . . _____ tires from vehicle, noting _____ on car
2. Elimination vehicles (vehicles _____ to have been at the scene, i.e. _____ car) . . . a _____of tire is usually all that is needed

***tire _____ most useful to _____ _____ tires

Then if _____ design . . . the tires must be analyzed _____ to make a match.
To do so, will need to make a _____ impression with suspect tire(s)
. . . usually done on _____ material so can be _____ on impression from scene.

Analysis includes:

- Closer look at _____ design elements, grooves, and sipes
- Tread _____ and _____ characteristics
  (NOTE: *Tread Design* _____ and *Who Makes it and Where* lists issued _____ as reference material as well as a database to store wheelbase, track width, and turning radius can help create _____ of _____ vehicles)
- _____ treatment and _____ features—useful to _____ narrow down the possible number of tires. Also, wear bars and noise treatment can be used in combination to _____ or eliminate the _____ of the tire that have made the scene impression.
- Random _____ characteristics or distinguishable marks—includes _____, glass, nails, cuts and if present on _____ impression and suspect tire, this can allow for positive _____
- _____ tires of different designs—when found on one vehicle, the likelihood of finding another vehicle with the _____ combination of tire designs is _____ or _____.