"KEEPING PACE" - #12

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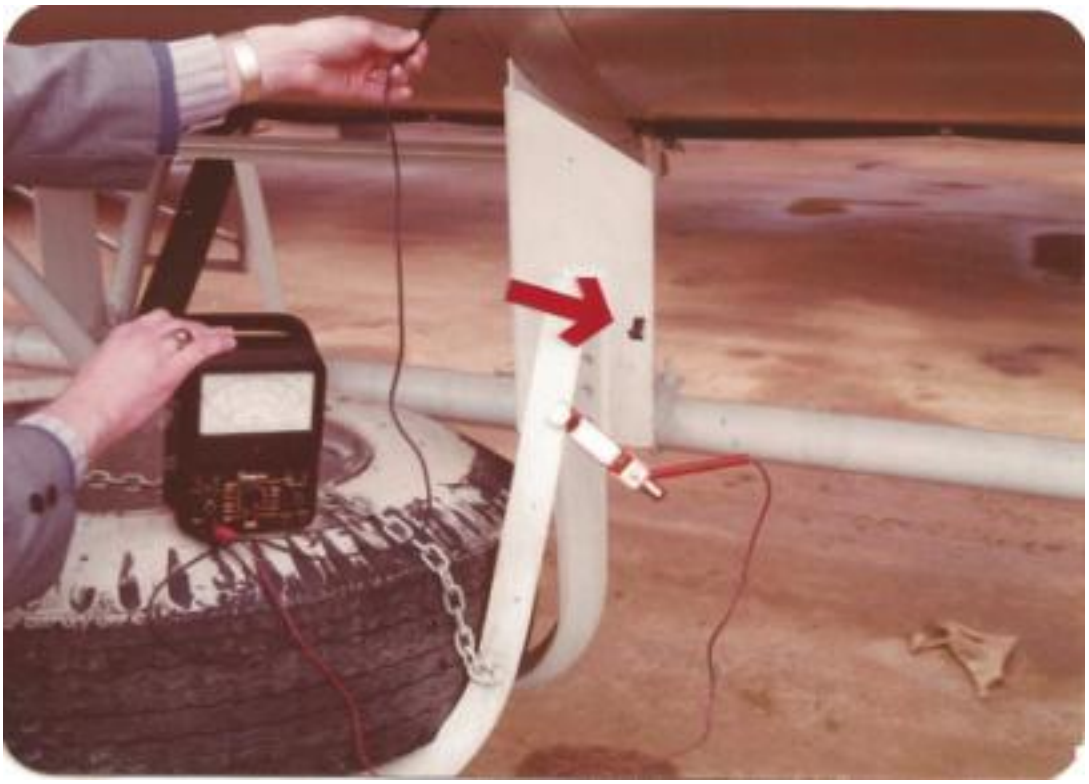
TANKER TRUCK EXPLOSION:

The photograph below shows a portion of a semi-tanker truck, identical to one which exploded and burned while being filled with a flammable liquid, in Memphis, Tennessee. The driver who was standing on top of the tanker was blown off and badly burned. My investigation revealed that the workmen had negligently and routinely been connecting the static discharge grounding wire to painted surfaces on the trucks, rather than to unpainted surfaces, which were harder to find. A painted surface is an effective insulator, and thus, the static electricity caused by the filling operation could not discharge through the grounding wire to ground. Therefore, the static electricity built up until it eventually flashed over and ignited the fumes from the flammable liquid. The arrow in the photograph below points to an area on the painted surface of a similar truck, where the paint has been worn away by the alligator grounding clips over a period of time. In this explosion, as in most explosions, it was impossible to determine the exact location of the spark which ignited the fumes from the flammable liquid.



(Continued on Page 2):

PROFESSIONAL ANALYTICAL & CONSULTING ENGINEERS, INC
RickFranklin@PaceForensic.com • 3501 Tiffany Ridge Lane • Cincinnati, OH 45241 • 513.793.2771

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SEWER GAS EXPLOSION:

The next photograph shows the source of an explosive gas where the source of ignition may have been a tool being used by a workman to scrape a concrete floor. The cause of this explosion was a mystery until I discovered that the sewer line from this new building had no trap in it to prevent sewer gases from entering the building. Rather, the top of the drain pipe had simply been taped, as shown in the photograph. Thus, it was sewer gas which exploded and subsequently damaged this building and seriously burned the workman.

Sincerely,

Frederick F. Franklin, P.E.
Forensic Engineer