

Ralph's Accident Reconstruction Newsletter—Volume 7, Number 1—January 2008



Santa Claus brought me a new tool for Christmas. It's a Canon HG10 High-Definition Camcorder. Features include a 10X optical zoom and a fast, f/1.8 lens for shooting in light levels as low as 3 lux. That level of illumination is the level at which human vision changes from cones (good detail and color discernment) to rods (poor detail and no color discernment but providing some visibility in very low light). Images are recorded to a 40 gigabyte hard drive inside the camera, providing over 5 hours of recording time in super high quality mode.

The image sensor in this camcorder is similar to the CMOS sensor used in the EOS series of digital SLR cameras. The video image capture size is 1920 x 1080; 1080 lines is the current standard for video High Definition. Canon advertizes that this sensor produces vibrant images in accurate color similar to those provided by camcorders utilizing 3CCD image sensors. This camcorder features what Canon calls SuperRange Optical Image Stabilization, which reportedly will help provide clear and stable images over a wide range of camcorder motions. It is also capable of recording 3.1 megapixel still images at 1920 x 1440. As of this writing, some of these claims have not been verified by me, but I have been very pleased with the Canon EOS 5D SLR camera, lenses, and related equipment which I bought last year, so I trust that their advertising is at least close to reality. Time will tell, as with many other things.

In December of 2007, Bosch (which bought Vetronix in whole) released hardware and software to allow access to the data stored in the Powertrain Control Module (PCM) of select Ford products, to directly access data in the Restraint Control Module (RCM) in other selected Ford products, and to access data in selected, late-model Chrysler products. Yours truly was one of the first to order the necessary hardware and software. This will be the first time owners of CDR Toolkits will have access to any crash data in any Chrysler Corporation product. The PCM data available in select, late-model Ford products provides a large volume of data for (typically) 20 seconds before and five seconds after a collision. Also, this upgrade of hardware

and software will allow access to data in the Rollover Sensor (ROS) of late-model General Motors products which incorporate that component. An Adobe Portable Document Format list of the vehicles covered by the latest upgrade is available on my Web site; you may go directly to it at www.ralphcunningham.net/ver3list.pdf. As you might imagine, the additional hardware and software purchase involved a substantial additional investment. I have raised my hardware rates for the CDR Toolkit from \$250 per unit to \$300 per unit and my bench download charge from \$400 to \$500.

Although it has nothing to do with new hardware, I have also increased my annual storage fee to \$125. I store evidence in a secure, off-site locker, and the associated fees for that have risen, too. Adjustments for inflation and expensive new technology seem to affect us all.



Another new piece of equipment I recently acquired is a Fujifilm Finepix S700 digital camera. It's a notch above a point-and-shoot camera, but several notches below a single-lens-reflex digital. Its significant virtue is that it can take a good (7.1 megapixel) autofocus photograph as close as 0.4 inch! Although my Canon EOS 5D would ultimately take a better picture, getting that close with my Canon requires the use of the special close-up lens which I bought for it and the associated ring flash. A whole lotta work! And I don't routinely carry that special 65 mm lens or the ring flash with me in the field. The 7.1 megapixel close-up images

from the S700 will be adequate for virtually any situation I can presently anticipate, and the super macro mode simply requires two clicks of a button. The entire camera is about the size of my hand and weighs about one pound with batteries.

I spent the week of December 10 through 14 on Jekyll Island. No, not what you think. I attended a seminar on advanced uses of the Rec-Tec accident reconstruction computer program I've had for several years and use from time to time. Topics included new features and new ways to use existing features plus new integration with Crash Zone, which is the program I use for CAD for drawing accident sites. Both Rec-Tec and Crash Zone now feature animation. The animation in these programs is not production-quality work, but the beauty of the Rec-Tec animation is that it's based on the input data and laws of physics. Over the years, I have seen some animations which should have actually been called cartoons. One of the significant shortcomings to standard methods of preparing animations of collision sequences is that they are prepared by animators based on a collection of numbers provided to them by an accident reconstructionist. The animator has no means of determining whether or not the furnished data set is based on physics or is otherwise a realistic representation of an event; in general, neither