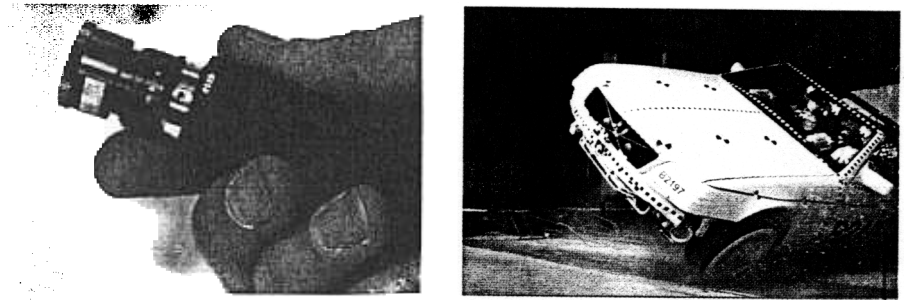
Fresh focus on crash testing

Micro cameras are being used by crash-test specialists at **Millbrook Proving Ground** in the UK to monitor what is described as safety-critical interactions in areas never before seen during impacts. The camera heads have diameters of 2 cm (0.8 in).

Millbrook's Crashworthiness Manager Andrew Beach said that a challenge facing the international motor industry is to refine understanding of critical interactions outside main structures. "The access that new cameras provide will allow us to see exactly what is happening in these areas, potentially unlocking significant further improvements in crashworthiness," he said.

Although most current crash-test cameras provide excellent image quality, they require extensive additional lighting and their size prevents them from being mounted in small spaces, said Beach. Also, their weight dictates where they can be placed without significantly affecting test results.

Millbrook is expected to be the first commercial test center to acquire a new



New micro cameras from NAC Image Technology are being used by crash-test specialists at Millbrook Proving Ground for safety testing.

generation of multi-head cameras developed by **NAC Image Technology** to overcome these drawbacks. The system uses separate recording and camera head modules connected by a robust umbilical. Each recording module can collect images from up to four camera heads, reducing the weight of the system by some 75% compared to many current systems, according to Millbrook.

Areas that will benefit from the new data will include occupant head contact with the header rail, which can now be viewed along the rail; pedal motion, now able to be viewed from the side and above; side airbag deployment, viewed from any angle; and steering column movement, with the camera now able to look up the column without interfering with the crash test dummy's feet.

Beach noted that even the smallest camera head requires little light. "So we can look in areas where traditional lights will not fit, such as the engine compartment," he said. This could help provide valuable information about how pedestrians impacting the vehicle interact with engine components and ancillaries.

Stuart Birch