

BICYCLE FAILURE

Experts Investigate Bicycle Component Failure

A bicycle rider was catastrophically injured when he crashed a composite-framed, road bicycle. After the crash, the front fork (with wheel) and the right crankarm (with pedal) were found detached from the bicycle. The roadway in the area of the crash was unremarkable and not consistent with causing the crash. Robson Forensic was retained to determine if the bicycle was defective in a manner that caused the crash.

Inspection of the fork revealed that the damage was a result of the crash and did not cause the crash. Analysis of the fractured crankarm axle by visual and Scanning Electron Microscope methods revealed that the crankarm axle failed in fatigue (cracking). Our experts demonstrated that the sudden and catastrophic failure of the crankarm axle occurred as the fatigue crack grew to a critical size. The weakened crankarm axle then failed during foreseeable use which resulted in a sudden weight shift to the rider's legs causing loss of control and the crash.

Featured Experts:

Erin B. Higinbotham, P.E. (ehiginbotham@robsonforensic.com)

Erin is a two-time national champion with the American Motorcyclist Association. He has more than 30 years experience with operation, maintenance and design of motorcycles and ATV's. As a Project Engineer for the Automotive Testing Laboratories and TRC Inc., he completed federal regulatory testing on motorcycles and ATVs. He has completed contract testing for several US and foreign motorcycle manufacturers. Erin has completed plaintiff and defense casework across the United States and Canada.

Richard J. Adams (RichardJ.Adams@robsonforensic.com)

Rich has over 24 years of professional bicycle construction, repair and maintenance experience. He has designed, built and repaired frames and performed custom assembly and maintenance of high-end road and mountain bikes. Logging more than 1,800 miles per year since 2004, Rich participates actively in road and mountain bike riding, bicycle commuting, and fixed-gear riding. He currently owns and operates a full service bicycle shop. Rich holds a B.S. in Materials Science & Engineering.