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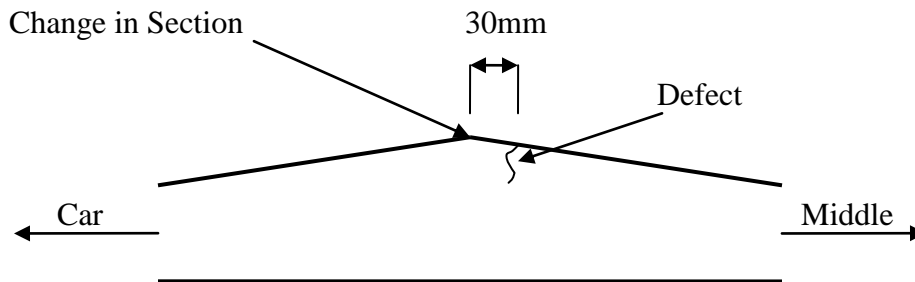
National Association For Leisure Industry Certification

Standards & Related Documents Committee

TECHNICAL BULLETIN — July 2014

380. Safeco Crazy Frog Arms

Defects have been reported by Capital Inspection Services whilst undertaking NDT on a Safeco Crazy Frog. Defects were found in three radial arms and the information from Capital is that the cracking was located 30mm from the change in section, partway along the radial arm. This particular device was manufactured in 2006.



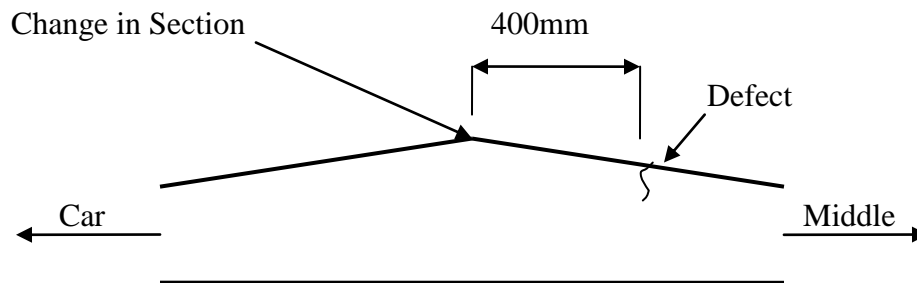
Sketch showing location of cracking on the 2006 device

Committee Members: Mr. D Dadswell (Chairman), Mr. A Mellor (Secretary), Mr. P Smith, Mr. J Green, Mr. P Mitchell,
Mr. D Cox, Mr. M Thirkettle, Mr. W Gilbert, Mr. H Fisher, Mr. J Shilling & Mr. D Inman



Photograph showing the cracking, initiated from the tack weld used to attach the lighting conduit

In 2009 there was an incident involving a Safeco Crazy Frog in which one of the radial arms failed during operation. This machine was manufactured in 2004 and the failure, due to a similar crack forming, occurred at a different location on the arm. In both cases it appears that the cracks initiated from a tack weld to the lighting bars.



Sketch showing location of cracking on the 2004 device

IBs and controllers are reminded that any attachment added after the initial fabrication of the device, such as drilling a hole to fix a conduit or tack welding on a short attachment, will have the affect of causing a stress concentration. This concentration will not have been accounted for in the original design assumptions and will likely reduce the expected (design) life of the device. Any safety critical modification to the device, such as the attachments described above, requires a Design Review by a registered IB.

This type of tack welding can initiate defects at or near the toe of the weld. All welds on Crazy Frog devices, including tack welds that attach lighting strips and other nonstructural items, should be visually inspected by the controller on a daily basis.