

## Incident Summary Report II-711928-2018 (7781)

<b>SUPPORTING INFORMATION</b>	Incident Date	May 25, 2018	
	Location	Ladner, BC	
	Regulated industry sector	Amusement Ride	
	Impact	Qty injuries	1
		Injury description	One person was reported to be shaken up by the event
		Injury rating	None
	Damage	Damage description	An Undersized “R” clip became bent and deformed, and was forced out of the hole on the retaining pin.
		Damage rating	Major
Incident rating	Major		
Incident overview	It was reported to Technical Safety BC that a retaining clip ( “ R” clip) fell out of its intended position allowing the Passenger Carrying Unit ( PCU) to detach from the rides power train. The now free PCU coasted downhill, and was able to leave the ride track. The PCU and its rider came to rest against a ride fence at the bottom of the ride track hill.		
<b>INVESTIGATION CONCLUSIONS</b>	Site, system and components	The individual PCU’s are connected together with hitches that a fastened with a retaining clip known in the industry as a “R” clip. The PCU train is pulled along the track by an electric motor at the front of the train. The ride track has a hill incorporated to it as a ride feature. This ride is designed for small children.	
	Failure scenario(s)	During the assembly of the ride, ride erection personnel inserted an undersized retaining clip into the hitch of the PCU. Pre-operational inspection failed to identify this undersized part. During operation of the ride forces on the undersized clip caused the retaining clip to bend. The vibration and motion at the hitch caused the retaining clip to eventually come free from its intended position allowing the PCU to separate from the train.	
	Facts and evidence	<ul style="list-style-type: none"> <li>• A signed “Daily Maintenance Checklist” had been completed.</li> <li>• A signed “Set up Inspection Checklist” had been completed.</li> <li>• A bent or deformed “R” clip was found at the PCU dislocation point.</li> <li>• An undersized “R” clip was installed, based on the receiver hole size on the retaining pin.</li> <li>• See attached photos from site investigation.</li> <li>• Operator confirmed with the manufacturer the correct size of retaining clip. The confirmed OEM retaining clip was of a larger dimension than the one evaluated at the site.</li> </ul>	
	Causes and contributing factors	It is highly likely that the incorrect size of the retaining clip resulted in the separation of the PCU and allowed the resultant collision of the PCU with ride fence to occur. It is likely that either the device was not inspected or an incomplete inspection of the device was performed prior to the operation of the device. A lack of knowledge by Maintenance/ Operations personnel may have been a contributing factor. Inadequate supervision may also have been a contributing factor.	

Photos or diagrams (if necessary)







