# Incident Summary Report # II-641646-2018) (#5105)

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| SUPPORTING INFORMATION | Incident Date | | *January 18, 2018* |
| | Location | | *Burnaby* |
| | Regulated industry sector | | *Elevating Devices, Escalator or Moving Walk way* |
| | Impact – Injury | Qty injuries | *1* |
| | | Injury description | *Child sustained bruising and swelling to their right foot.* |
| | | Injury rating | *Minor* |
| | Impact – Damage | Damage description | *No damage to regulated equipment* |
| | | Damage rating | *None* |
| | Incident rating | | *Minor* |
| | Incident overview | | *The user was stepping up onto the escalator skirt decking and back down onto the step.*<br>*The escalator users right rubber boot became entrapped between the escalator step and stationary skirt panel.*<br>*It was reported that the user was stepping up onto the stationary skirt decking and then back down on to the step at the time of the entrapment.* |
| INVESTIGATION CONCLUSIONS | Site, system and components | | *Escalators have design features to prevent users from getting their foot wear and clothing articles from being entrapped.*<br>*This entrapment mainly occurs between the moving step and stationary skirt panel on down escalators.*<br>*The escalator steps are designed and required to have a maximum running clearance of 5mm between the step and stationary skirt panel.*<br>*The skirt panels are designed to remain stiff and have adjustable brackets for support and to maintain the step to skirt running clearance. These brackets are typically spaced at 5 feet apart behind the visible skirt panels.*<br><br>*The escalator skirt panels are also manufactured with an anti-friction coating to help reduce fiction and lower the chances of footwear and clothing articles from being entrapped.* |
| | Failure scenario(s) | | A child with soft rubber boots was unsupervised and was allowed to step up onto the escalator skirt decking.<br><br>The child stepped onto the escalator skirt decking at approximately steps 7-9 upon entering, steps 12-13 and steps 19-20. This escalator has 74 steps with approximately 33 steps visible.<br><br>As the child stepped down near the bottom end of the escalator his boot contacted the high friction step/skirt panel which was able to flex due missing skirt brackets allowing the boot to become entrapped between the moving step and the stationary skirt panel. |
| | Facts and evidence | | During the investigation the Step/skirt performance index test showed that the step gap increased when a 90 degree force of 25ft/lbs was applied to the skirt panel.<br><br>The step/skirt performance index test showed that the antifriction coating on the skirt panels did not meet the code requirement for the co-efficient of friction.<br><br>During the investigation I found that there were only 3 skirt stiffening brackets. One bracket at top, middle and bottom for each side. |

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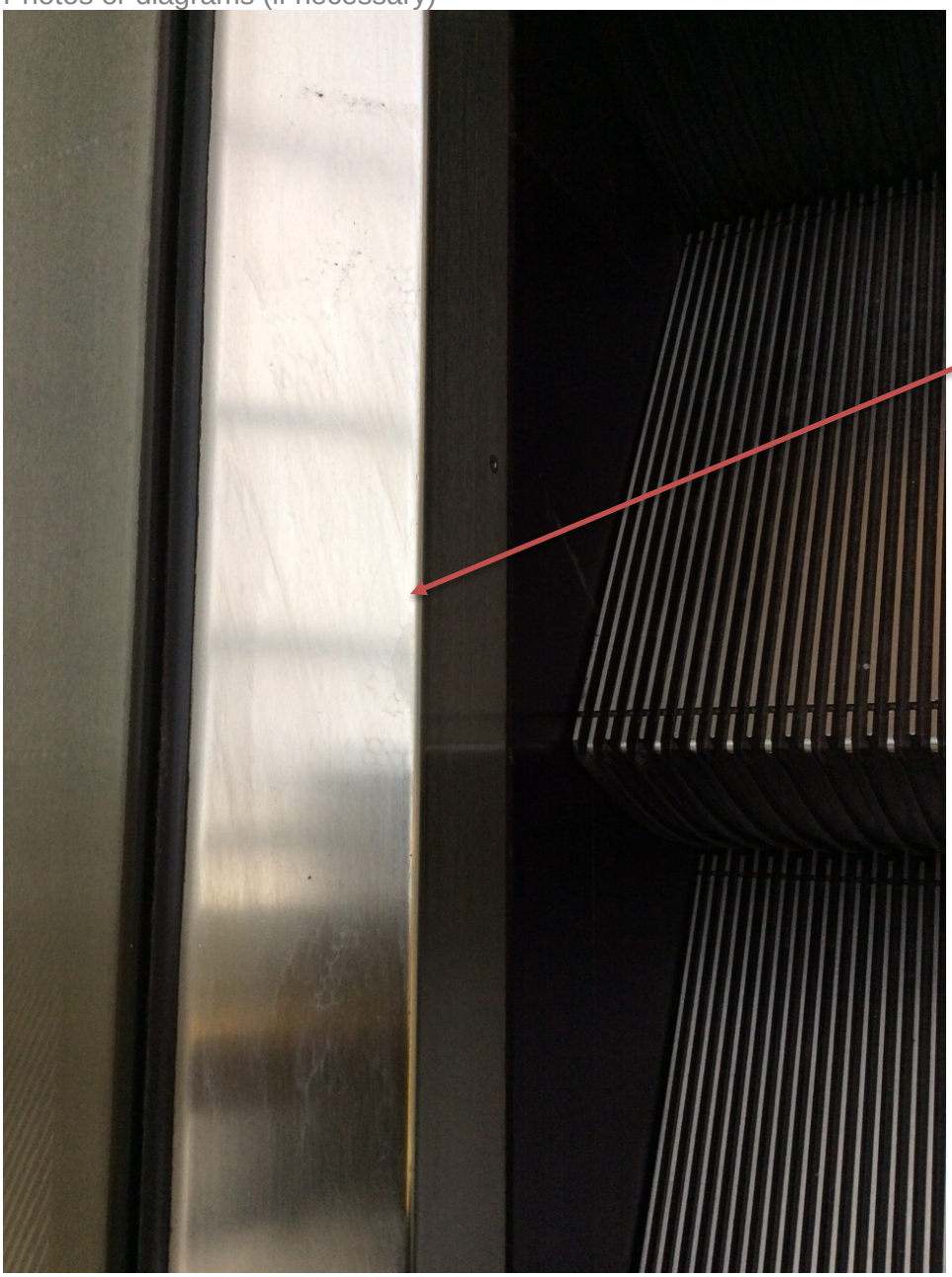
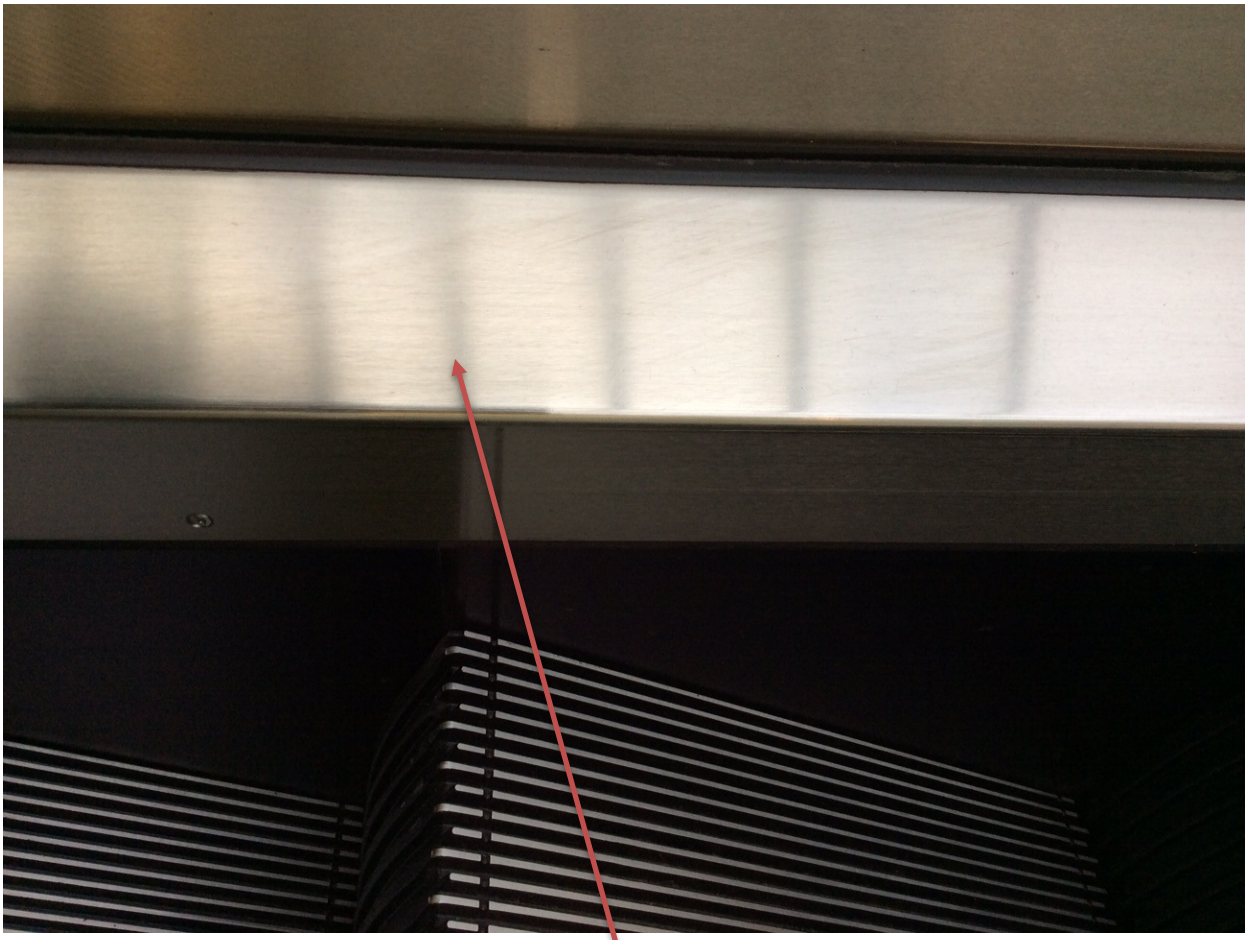
| | Each side was missing 10 skirt stiffening brackets for this rise of escalator. |
| Causes and contributing factors | Highly likely that the interaction of the soft rubber boot with the high friction step/skirt panels allowed the boot to become entrapped. Missing skirt brackets allowed the flexing of the skirt panels , this likely contributed to the entrapment. |

Photos or diagrams (if necessary)



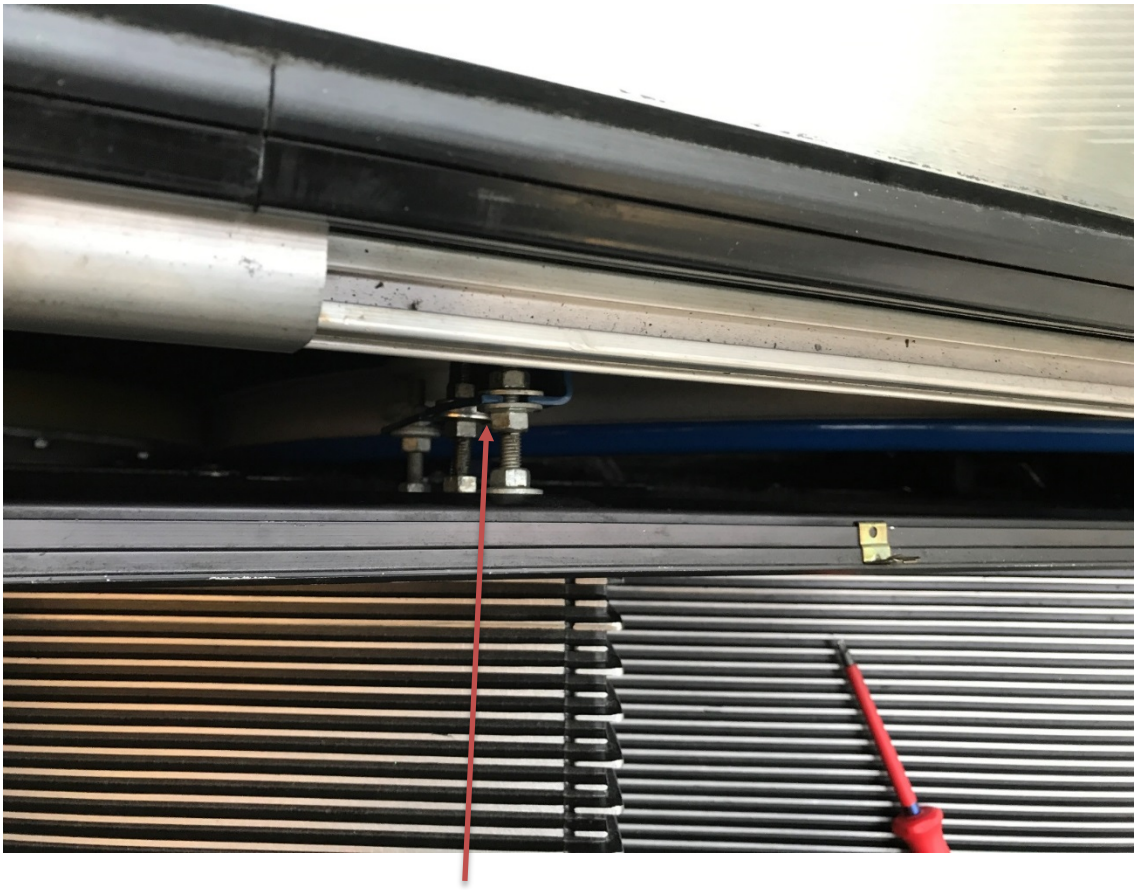
Foot print markings on the skirt from the 7-9th steps from the top.



Foot print markings on the 12-13th steps from top.

Foot print markings 19-20th step from top.

Entrapped rubber boot between the steps and skirt panel.



Skirt stiffening bracket.

Step/skirt index performance graph.