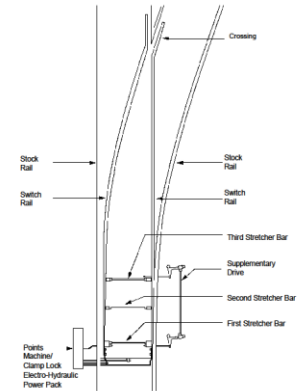


## Background

Switches and Crossings (S&C) make a significant contribution to the delay costs associated with railway infrastructure.



Component	Shape parameter, $\beta$	95% Confidence interval of $\beta$	Scale parameter, $\eta$	95% Confidence interval of $\eta$
Point machine	0.38	0.32 - 0.45	7717.35	4107.53 - 14499.60
Supplementary drive sets	0.42	0.37 - 0.47	13933.7	9100.12 - 21518.8
Point heater	0.55	0.45 - 0.67	49587.8	23610.3 - 104147
Multiple stretcher bars	0.43	0.35 - 0.52	75296.2	32171.7 - 176226
Multiple fastenings	0.42	0.35 - 0.50	98274.9	43540.7 - 221815
Multiple slide chairs	0.47	0.42 - 0.53	11270.5	8135.32 - 15613.9



Component	Number of complete lifetimes	Number of censored lifetimes
Clamp lock	887	678
Point machine	97	145
Supplementary drive sets	210	405
Points heater	87	489
Stretcher bar sets	96	410
Fastening sets	107	454
Slide chair sets	268	500

## Objective

Establish the distributions of times to failure for individual S&C components.

