

# Fault Isolation Report

## Common Cause Fault Group Size Statistics

Size	Isolation Percentages Using Testing Only			Isolation Probabilities Using Testing Only		Resolution Probabilities Using Lambda Search	
	Qty	%	Cum %	%	Cum %	%	Cum %
1	186	92.08	92.08	79.66	79.66	94.36	94.36
2	14	6.93	99.01	5.11	84.77	2.40	96.76
3	1	0.50	99.50	0.26	85.03	0.71	97.47
4	0	0.00	99.50	0.00	85.03	0.65	98.12
5	0	0.00	99.50	0.00	85.03	0.51	98.63
6	0	0.00	99.50	0.00	85.03	0.29	98.91
7	0	0.00	99.50	0.00	85.03	0.29	99.20
8	0	0.00	99.50	0.00	85.03	0.29	99.48
9	0	0.00	99.50	0.00	85.03	0.29	99.77
10	0	0.00	99.50	0.00	85.03	0.16	99.93
11	0	0.00	99.50	0.00	85.03	0.02	99.94
12	0	0.00	99.50	0.00	85.03	0.02	99.96
13	0	0.00	99.50	0.00	85.03	0.02	99.98
14	0	0.00	99.50	0.00	85.03	0.02	99.99
17	1	0.50	100.00	14.97	100.00	< 0.01	100.00

Total Fault Groups:	202
Average Fault Group Size:	1.16
Isolation Effectiveness:	28.97
Expected Fault Group Size:	3.45
Resolution Effectiveness:	85.10
Expected Repairs per Isolation:	1.18

Fault Group Counting Method: Each individual fault group **instance** is separately counted  
 Lambda Search: Max. of **25** items, where the comparison with the **next highest item** is at least **1.00 to 1**

## Cost/Time to Diagnose a Primary Failure Using Testing Only (Common Cause Isolation)

Cost to Isolate (in US Dollars)		Time to Isolate (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	13.00	Maximum:	13.00
Average:	4.04	Average:	4.04
Expected (MCTI):	2.64	Expected (MTTI):	2.64
Differential:	-1.40 (-34.71%)	Differential:	-1.40 (-34.71%)
per Operating Hour:	0.0031	per Operating Hour:	0.0031
Cost to Replace (in US Dollars)		Time to Replace (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	1099.00	Maximum:	365.00
Average:	58.32	Average:	10.72
Expected:	180.23	Expected:	64.17
Differential:	121.91 (+209.05%)	Differential:	53.45 (+498.73%)
per Operating Hour:	0.2111	per Operating Hour:	0.0751
Cost to Repair (in US Dollars)		Time to Repair (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	1112.00	Maximum:	378.00
Average:	62.36	Average:	14.76
Expected (MCTR):	182.87	Expected (MTTR):	66.81
Differential:	120.51 (+193.26%)	Differential:	52.05 (+352.71%)
per Operating Hour:	0.2141	per Operating Hour:	0.0782

Mean Time Between Failures (MTBF): **853.95 hours**  
Inherent Availability: **0.998698**

## Cost/Time to Resolve a Primary Failure Using Lambda Search (Common Cause Isolation)

Cost to Isolate (in US Dollars)		Time to Isolate (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	195.00	Maximum:	195.00
Average:	12.12	Average:	12.12
Expected (MCTI):	4.91	Expected (MTTI):	4.91
Differential:	-7.21 (-59.50%)	Differential:	-7.21 (-59.50%)
per Operating Hour:	0.0057	per Operating Hour:	0.0057
Cost to Replace (in US Dollars)		Time to Replace (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	1084.00	Maximum:	320.00
Average:	93.59	Average:	21.56
Expected:	18.45	Expected:	13.52
Differential:	-75.14 (-80.29%)	Differential:	-8.04 (-37.30%)
per Operating Hour:	0.0216	per Operating Hour:	0.0158
Cost to Repair (in US Dollars)		Time to Repair (in minutes)	
Minimum:	0.00	Minimum:	0.00
Maximum:	1279.00	Maximum:	515.00
Average:	105.70	Average:	33.68
Expected (MCTR):	23.36	Expected (MTTR):	18.42
Differential:	-82.34 (-77.90%)	Differential:	-15.25 (-45.29%)
per Operating Hour:	0.0274	per Operating Hour:	0.0216

Mean Time Between Failures (MTBF): **853.95 hours**  
Inherent Availability: **0.999641**

## Tests to Diagnose a Primary Failure

Tests to Detect	Tests to Isolate	Tests to Detect & Isolate
Minimum: <b>1</b>	Minimum: <b>0</b>	Minimum: <b>2</b>
Maximum: <b>27</b>	Maximum: <b>44</b>	Maximum: <b>48</b>
Average: <b>6.79</b>	Average: <b>12.72</b>	Average: <b>19.50</b>
Expected: <b>6.63</b>	Expected: <b>9.08</b>	Expected: <b>15.71</b>