**Image 1: Cause and Effect Diagram**

**The image shows a cause and effect, or fishbone diagram. Coming off the central spine are six major branches, or ribs. The six branches are: Manpower, Materials, Machines, Measurements, Methods and Milieu (French for Environment). The backbone of the diagram points the problem that we are trying to find possible causes for, Poor Welds.

Coming off each brache are smaller branches, or twigs that are used to decompose each brach into finer possible root causes.**

**Image 2: Check Sheet**

**The chart title is Image 2: Check Sheet. There is a top down image of a car with the front bumper to the right.  There are 11 boxes superimposed on the image with numerical values indicating the number of defects located on the surface of the vehicle related to the boxes postion on the car. Defects at locations are as follows:
Roof 6
Hood 3
Trunck Lid 14
Right Rear Quarter 6
Left Rear Quarter 0
Right Front Quarter 13
Left Front Quarter 5
Drivers Door 5
Front Passenger 3
Rear Driver Side Door 5
Rear Passenger Side Door 7
**

**Image 3: Flowchart**

[The chart title is Image 3: Flow Chart

Initial Activity: Need is Defined
Flow Arrow to Requisition Entered in I-Procurement
Flow Arrow to Develop Market Research, Statement of Work, Independent Cost Estimate,
Flow Arrow to Decision Point: Competitive Procurement: Yes or No.
If NO flow arrow is to JOTFOC (justification document) created and approved. Then flows to Small Business Review.  If Yes flows directly to the Small Business Review.
Flow Arrow to RFP Creation and Review
Flow Arrow to FBO Synopsis
Flow Arrow to Release RFP on FBO
Flow Arrow to Offerors Submit Proposals
Flow Arrow to Technical Review Phase
Flow Arrow to Decision Point Discussions?  If Yes Flow Arrow to Determine Competitive Range, Flow Arrow to Conduct Negotiations, Flow Arrow to Technical Review, Flow Arrow to Source Selection.  If NO Flow Arrow directly to Source Selection.
Flow Arrow to Award, Review and Processing
Flow Arrow to Contract Award
Flow Arrow to Notify Unsuccessful Offerors
Flow Arrow to Award Notifications Posted
Flow Arrow to Designate Contracting Officers Technical Representative
Flow Arrow to Contract Administration
](https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjX6qLfv_DXAhVq9IMKHT0QBOEQjRwIBw&url=https://www.ihs.gov/dap/acquisitionprocess/&psig=AOvVaw3gwnexkN-ewUxdCEURBofO&ust=1512481750292801)

**Image 4: Histogram**

The chart title is Image 4: Histogram.
Skewed right Histogram.  Long low tail to the left from 2579 to 2594. Bulk of normal distribution from 2595 - 2604.  Short right tail from 2605 - 2612.

Raw data table follows this image.


|  |  |
| --- | --- |
| **Histogram Raw Data** | |
| **Measure Value** | **Frequency** |
| **2579** | **1** |
| **2580** | **0** |
| **2581** | **1** |
| **2582** | **1** |
| **2583** | **1** |
| **2584** | **1** |
| **2585** | **0** |
| **2586** | **0** |
| **2587** | **2** |
| **2588** | **2** |
| **2589** | **2** |
| **2590** | **2** |
| **2591** | **2** |
| **2592** | **1** |
| **2593** | **2** |
| **2594** | **1** |
| **2595** | **2** |
| **2596** | **3** |
| **2597** | **4** |
| **2598** | **5** |
| **2599** | **5** |
| **2600** | **8** |
| **2601** | **6** |
| **2602** | **4** |
| **2603** | **3** |
| **2604** | **2** |
| **2605** | **0** |
| **2606** | **0** |
| **2607** | **3** |
| **2608** | **1** |
| **2609** | **0** |
| **2610** | **1** |
| **2611** | **1** |
| **2612** | **0** |

**Image 5: Pareto Chart**

**Chart title is Car Seat Defects from Supplier
This is a compound chart with two sets of data graphed. 
The left vertical axis is labeled Count of Errors. The scale is from 0 to 600 by 100’s.
The right vertical axis shows cumulative percentage values from 0 to 100 by 10’s.
The horizontal Axis is labeled for types of defects from left to right in most frequently occurring order.There are ten defects listed. Fabric Torn, Stained, Wrinkle, Punctured, Wrong Fabric, Thread Off, Wrong Color, Pattern Off, Blemished and Miscellaneous. The graph shows that the first three defects represent approximately 80% of all defects, labeled “vital few” while the rest represent approximately 20% of all defects, labeled “trivial many”.**

|  |  |  |
| --- | --- | --- |
| **Defect** | **Count** | **Percentage** |
| **Fabric Torn** | **498** | **50.40%** |
| **Stained** | **200** | **20.24%** |
| **Wrinkle** | **95** | **9.62%** |
| **Punctured** | **94** | **9.51%** |
| **Wrong Fabric** | **50** | **5.06%** |
| **Thread Off** | **18** | **1.82%** |
| **Wrong Color** | **15** | **1.52%** |
| **Pattern Off** | **10** | **1.01%** |
| **Blemished** | **5** | **0.51%** |
| **Miscellaneous** | **3** | **0.30%** |
| **Total Defects** | **988** | **100.00%** |

**Image 6: Run Chart**

The chart title is Image 6: Run Chart
The image is a line chart.
The horizontal axis is the time scale with the days of the week repeated five times plus Sunday and Monday.
The vertical axis is labeled from 0 to 9 representing the number of input errors.

Raw data follows image.



|  |  |  |
| --- | --- | --- |
| **Week** | **Day of the Week** | **Number of Defects** |
| **Week 1** | **Saturday** | **0** |
|  | **Sunday** | **2** |
|  | **Monday** | **0** |
|  | **Tuesday** | **1** |
|  | **Wednesday** | **3** |
|  | **Thursday** | **6** |
|  | **Friday** | **8** |
| **Week 2** | **Saturday** | **4** |
|  | **Sunday** | **3** |
|  | **Monday** | **3** |
|  | **Tuesday** | **1** |
|  | **Wednesday** | **3** |
|  | **Thursday** | **5** |
|  | **Friday** | **7** |
| **Week 3** | **Saturday** | **5** |
|  | **Sunday** | **2** |
|  | **Monday** | **3** |
|  | **Tuesday** | **3** |
|  | **Wednesday** | **5** |
|  | **Thursday** | **6** |
|  | **Friday** | **8** |
| **Week 4** | **Saturday** | **3** |
|  | **Sunday** | **3** |
|  | **Monday** | **1** |
|  | **Tuesday** | **4** |
|  | **Wednesday** | **5** |
|  | **Thursday** | **6** |
|  | **Friday** | **7** |
| **Week 5** | **Saturday** | **4** |
|  | **Sunday** | **3** |
|  | **Monday** | **2** |