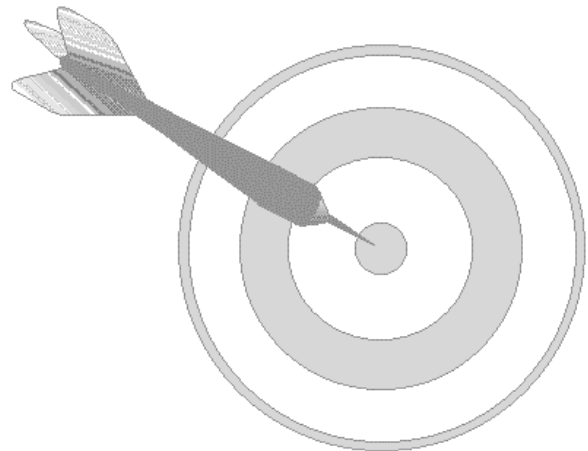


# DARTStats™ User Manual

04/18/02



***Making Molding Simple™***

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## **RJG Support**

RJG, Inc. offers support services throughout North America with nine Sales/Support Offices.

### **Product Support**

Contact your RJG, Inc. representative for:

- Sales and Order Support
- Product Technical Training
- Warranty Support
- Support Contracts

### **Technical Product Assistance**

If you need to contact RJG, Inc. for technical assistance, please review the information in the Start Up, and Troubleshooting chapters first, then call your RJG representative. Or Contact RJG direct at 1-231-947-3111.

# Quick Start

## Objectives:

DARTStats™ is a tool to show trends and analyze data that is generated by the RJG Inc. DARTVision™ system

## Philosophy:

Improve future processes by understanding what makes a process go out of control

## General User Interface Information:

Click the Button in the top right corner with a ? mark on it, then click any object on the screen to get help.



Pressing the F1 key will also take you to the help system.

## Startup Steps:

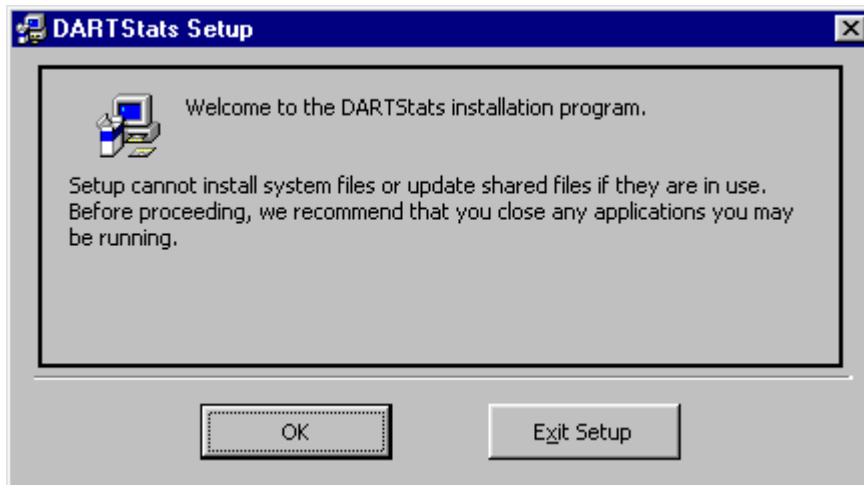
- Point the data directory to where your DARTVision™ Data exists.
- Choose a Mold to analyze.
- Unclick any data files in the 'Data Found' box that you do not want included in the analysis.
- Pick the measurement you wish to analyze (Hydraulic, Post Gate, etc).
- Pick the data you wish to analyze (cycle integral, time to peak, etc).
- Pick the sampling type you want, either all the data, or so many samples per hour unit.
  - For ½ hour intervals, set Interval period to .5 For 2 hours, set Interval Period to 2.
- Click the 'Show Graphs' button.

## Chapter 1: Overview

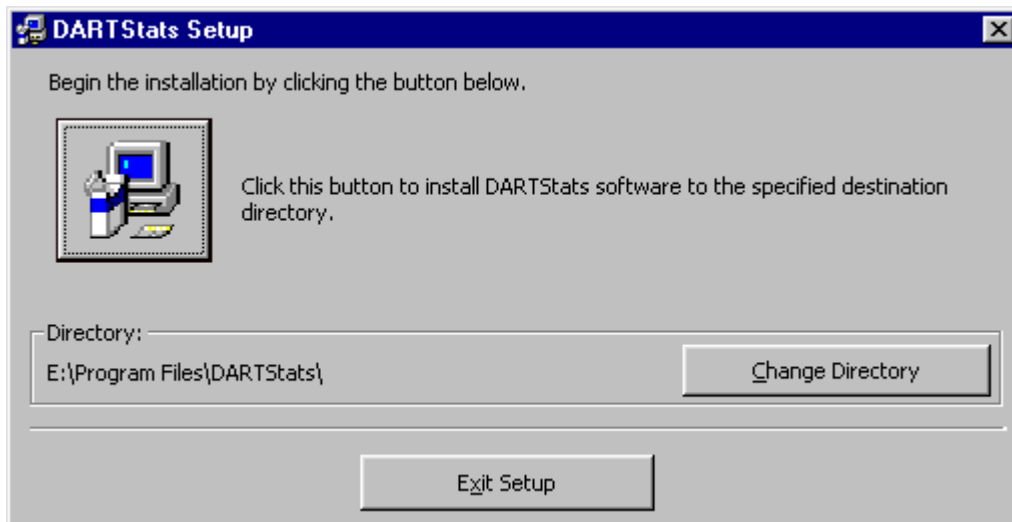
DARTStats™ is a statistical software package designed to work with RJG Inc.'s DART Vision™ software. DARTStats™ allows for the long-term analysis of data taken by the DART Vision™ system, providing X Bar, R Bar, and Histogram graphs of all saved DART Vision™ data. Data can be sampled (normally 5 samples an hour) so that large amounts of data may be displayed and analyzed.

## Chapter 2: Installation

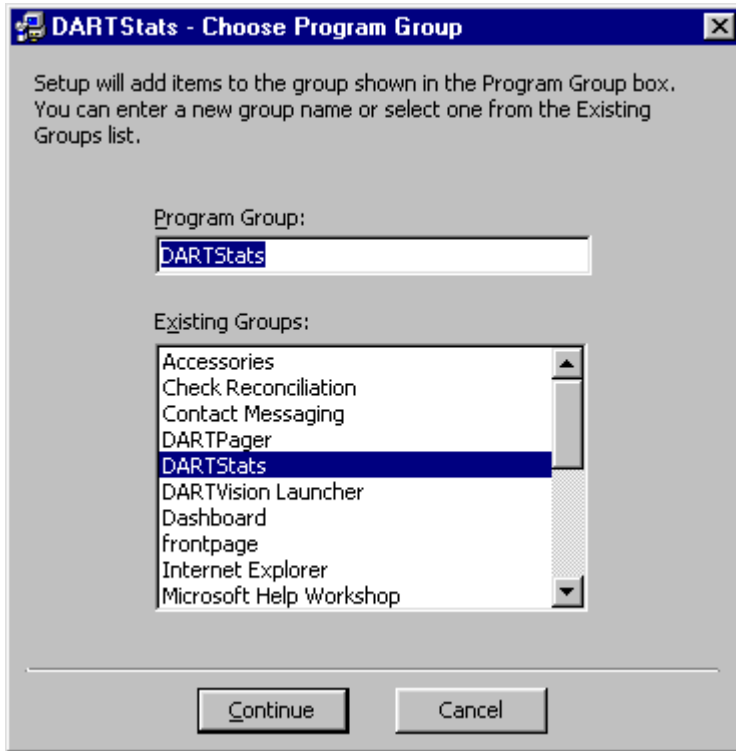
1. Start Windows
2. Insert the DARTStats™ CD into your CD Drive
3. Choose Run from the Start Menu.
4. Type 'D:\Setup' or replace the D with the drive letter of your CD Drive.
5. If you are asked to reboot, you will have to repeat steps 1 – 4
6. After this you will see the screen below, choose OK to continue.



7. After this point you should see



8. Click the computer icon at the top left corner to install, or click the Change Directory button if you wish to install to a different directory
9. Then you will be asked to give the system a program group to save shortcuts to:



10. Take the default, click the Continue button, and the system will install the software.

## Chapter 3: Specifications

### Calculations are done as follows:

X Bar = average of all samples

X UCL = X Bar + (A2 \* R Bar)

X LCL = X Bar - (A2 \* R Bar)

R Bar = average of all the averages

R UCL = D4 \* R Bar

R LCL = D3 \* R Bar

all A2, D2, and D3 numbers are derived from a standard statistical chart. Any subgroups over 25 are estimated until further research can be done.

Subgroup samples of one are calculated as a moving range.

## Chapter 4: Graphs

This chapter contains information on the following:

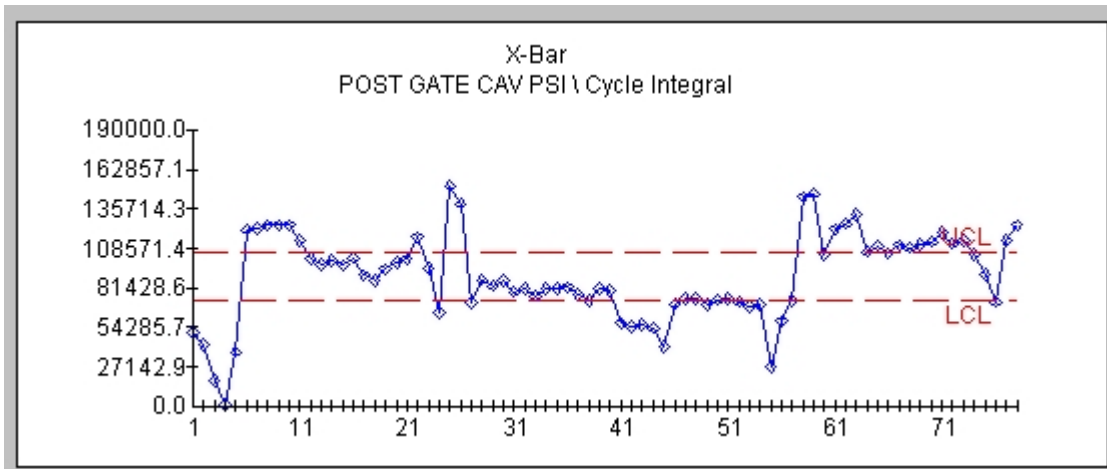
- X-Bar Graph
- Range Graph
- Histogram Graph

### All Graphs Note:

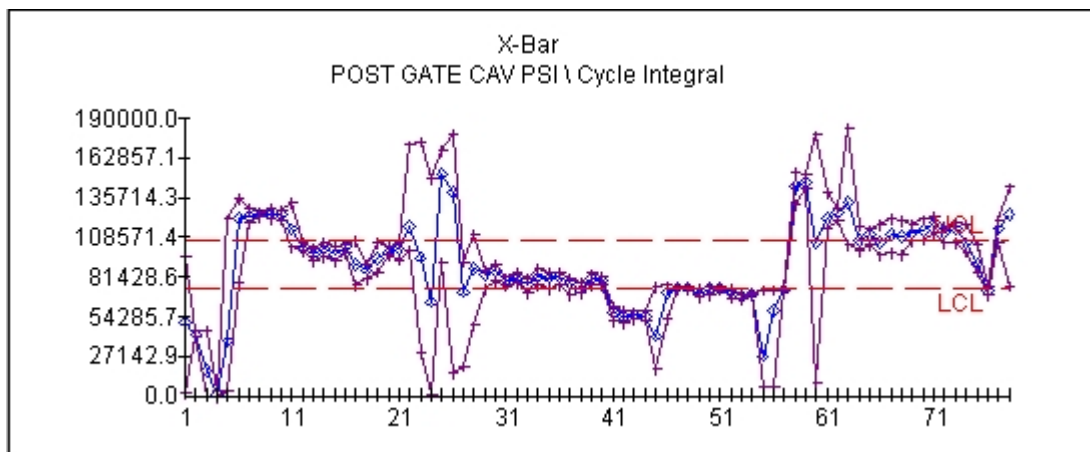
If you right mouse click on a graph (X-bar,Range, or Histogram), you will see Property Pages for the graph that will allow you to change several settings for the graph. These settings will not be saved, however if you wish to see your data as a bar graph, that is possible.

### The X-Bar Graph:

The X-Bar graph displays the sampled data that you chose from the selection screen. It shows the measurement name and actual measurement being graphed. The graph also has red dashed lines that represent the Upper and Lower Control Limits.

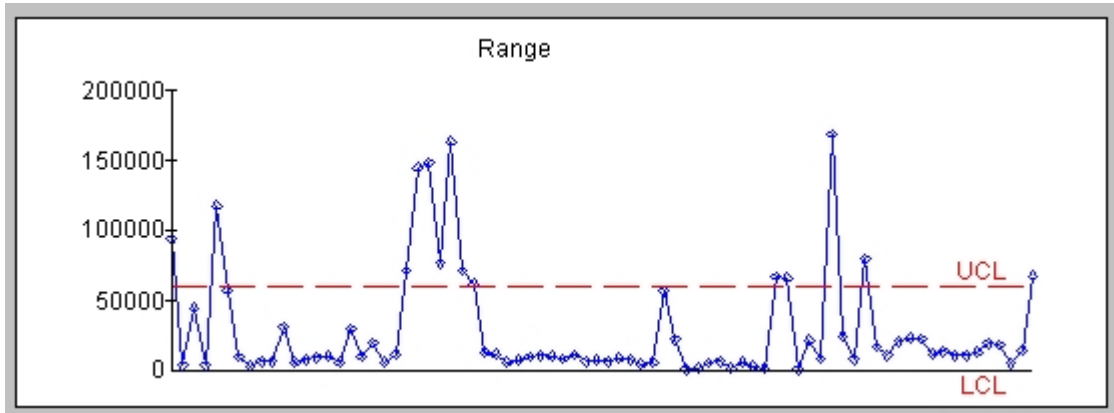


You can also toggle lines that represent the max and min sample for each point by choosing View, Toggle Max Min Lines on the X-Bar graph, from the main menu.



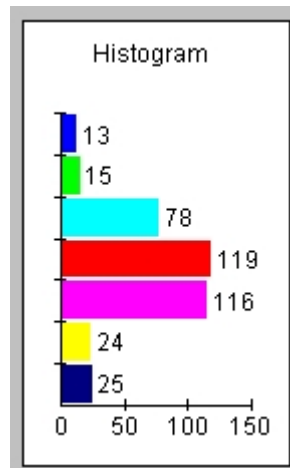
## The Range Graph:

The Range Graph displays the largest difference between each sampled data point for all the data plotted on the X-Bar Graph. If the X-Bar Graph is showing all the data available, and not a sample, then the Range Graph shows a moving range. The dashed red lines represent the Upper and Lower Control Limits



## The Histogram Chart:

The Histogram chart shows how the samples that make up the X-Bar graph are distributed across the number of divisions that have been chosen. The number of divisions can be set from the menu choice of Edit, Number of Divisions.



## Chapter 5: Reference:

### Exporting Data:

DARTStats™ can export data in two different formats. One is a Comma Separated Values (.CSV) which can easily be opened by programs such as Microsoft Excel™. The other format is Microsoft Access95™. You can choose to export all the samples that make up the X-Bar graph, or just the averaged data points. From the graph's menu, choose Export. The exports will be put into files named export.csv if format is CSV, and export.mdb if format is Access™. These files will be overwritten with new data each time you export data, so be sure to copy the files somewhere else if you wish to save any data for later analysis.