

Chapter 22

INSET Statement

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Chapter 22

INSET Statement

Overview

The INSET statement allows you to enhance a moving average control chart by adding a box or table (referred to as an *inset*) of summary statistics directly to the graph. A possible application of an inset is to present moving average parameters on the chart rather than displaying them in a legend. An inset can also display arbitrary values provided in a SAS data set.

Note that the INSET statement by itself does not produce a display but must be used in conjunction with an MACHART or EWMACHART statement. Insets are not available with line printer output, so the INSET statement is not applicable when the LINEPRINTER option is specified in the PROC MACONTROL statement.

You can use options in the INSET statement to

- specify the position of the inset
- specify a header for the inset table
- specify graphical enhancements, such as background colors, text colors, text height, text font, and drop shadows

Getting Started

This section introduces the INSET statement with a basic example showing how it is used. See Chapter 45, “INSET and INSET2 Statements,” in Part 9, “The SHEWHART Procedure,” for a complete description of the INSET statement.

This example is based on the same scenario as the first example in the “Getting Started” section of Chapter 20, “EWMACHART Statement.” An EWMA chart is used to analyze data from the manufacture of metal clips. The following statements create a data set containing measurements to be analyzed and the EWMA chart shown in Figure 22.1.

```

data clips1;
  input day @ ;
  do i=1 to 5;
    input gap @ ;
    output;
  end;
  drop i;
  datalines;
1  14.76  14.82  14.88  14.83  15.23
2  14.95  14.91  15.09  14.99  15.13
3  14.50  15.05  15.09  14.72  14.97
4  14.91  14.87  15.46  15.01  14.99
5  14.73  15.36  14.87  14.91  15.25
6  15.09  15.19  15.07  15.30  14.98
7  15.34  15.39  14.82  15.32  15.23
8  14.80  14.94  15.15  14.69  14.93
9  14.67  15.08  14.88  15.14  14.78
10 15.27  14.61  15.00  14.84  14.94
11 15.34  14.84  15.32  14.81  15.17
12 14.84  15.00  15.13  14.68  14.91
13 15.40  15.03  15.05  15.03  15.18
14 14.50  14.77  15.22  14.70  14.80
15 14.81  15.01  14.65  15.13  15.12
16 14.82  15.01  14.82  14.83  15.00
17 14.89  14.90  14.60  14.40  14.88
18 14.90  15.29  15.14  15.20  14.70
19 14.77  14.60  14.45  14.78  14.91
20 14.80  14.58  14.69  15.02  14.85
;

title 'EWMA Chart for Gap Measurements';
symbol v=dot;
proc macontrol data=clips1;
  ewmachart gap*day / weight=0.3
                nolegend;
  inset stddev weight / cfill = blank;
run;

```

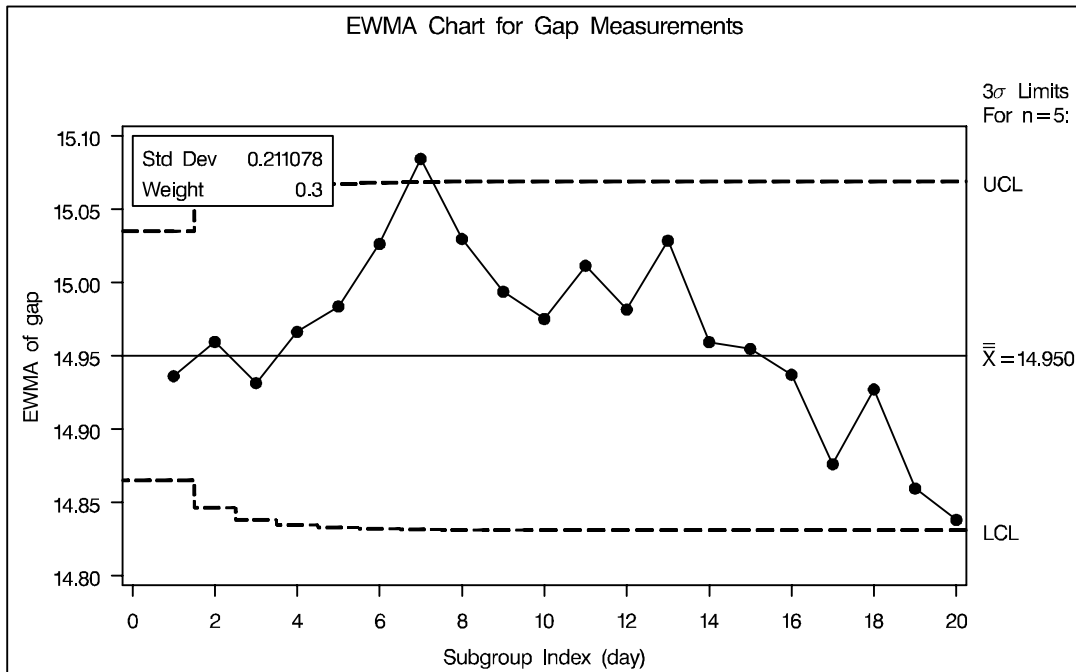


Figure 22.1. Exponentially Weighted Moving Average Chart with an Inset

Syntax

The syntax for the INSET statement is as follows:

INSET *keyword-list* < / *options* >;

You can use any number of INSET statements in the MACONTROL procedure. Each INSET statement produces a separate inset and must follow an MACHART or EW-MACHART statement. The inset appears on every panel (page) produced by the last chart statement preceding it.

Keywords specify the statistics to be displayed in an inset; options control the inset's location and appearance. A complete description of the INSET statement syntax is given starting on page 1601 of Part 9, "The SHEWHART Procedure." The INSET statement options are identical in the MACONTROL and SHEWHART procedures, but the available keywords are different. The keywords available with the MACONTROL procedure are listed in Table 22.1 to Table 22.3.

Table 22.1. Summary Statistics

MEAN	estimated or specified process mean
N	nominal subgroup size
NMIN	minimum subgroup size
NMAX	maximum subgroup size
NOUT	number of subgroups outside control limits
NLOW	number of subgroups below lower control limit
NHIGH	number of subgroups above upper control limit
STDDEV	estimated or specified process standard deviation
DATA=	arbitrary values from <i>SAS-data-set</i>

Table 22.2. Parameter for Uniformly Weighted Moving Average Charts

SPAN	number of terms used to calculate moving average
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Table 22.3. Parameter for Exponentially Weighted Moving Average Charts

WEIGHT	weight assigned to most recent subgroup mean in computation of the EWMA
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