691A User's Guide

Picket Placer™

PROM Software Inc

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User's Guide and Software
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Description

The Picket Placer calculator will compute the layout of a pickets for a wrought-iron or wood picket fence, whether horizontal or on a slope. Pickets may be spaced individually or grouped in twos or threes. Results are calculated to the desired precision, up to 1/100th of an inch.

Horz	Rise/Run	Angle	BackUp
▢	▢	▢	▢
Rework	Find Pckt	*	Setup
▢	▢	▢	▢

PROM 691

Horizontal Routine [Horz] Function Key

Prompt	User Response
SPAN= xx.xx?_	Enter the span in inches
P-WIDTH= x.xxx?_	Enter the width of a picket in inches.
PICKET/GRP= x?_	Enter the number of pickets per group. Allowed entries are 1, 2, and 3. Enter a 1 to place individual pickets.
IN-DIM= x?_	(Appears only if there are groups of pickets.) Enter the inside spacing of the pickets within the group.
MAX SPACE= xx.xx?_	Enter the maximum space allowable between pickets in inches. Enter a 0 if you wish to specify the number of pickets or number of groups.
FORCE ODD Y?_	(Appears only if MAX SPACE is entered above.) To force an odd number of pickets, press [Yes], otherwise press [No]. If the [Yes] is pressed, the calculated number of pickets will always be odd. If [No] is pressed, the calculated number of pickets could be odd or even.
# PICKETS= xx?_ # GROUPS= xx?_	(Appears only if 0 entered at MAX SPACE.) Enter the number of pickets, or if groups of pickets are being computed, enter the number of groups of pickets.

`OFFSET= xx.xx?_`   Enter the offset in inches. A positive offset shifts all pickets away from the starting edge, a negative offset shifts all pickets closer to the starting edge.[1]

`## P@          xxx.xx`

The number of pickets and the space between the pickets is displayed. (This measurement is always shown to the nearest 100ths of an inch.)

       Following this, the measurement to each individual picket will be shown (see example below).

Find Picket Function Key

       Once a spacing has been computed, you can find the distance to any specific picket by pressing the FIND PICKET function key and entering the desired picket number. This key allows you to quickly check a specific picket, or quickly get to the end of a long layout.

       Using this function key, you can "jump" into the middle of the layout at the selected picket number. Pressing [ENTER] will proceed forward (to higher picket numbers) in the layout, pressing [BACKUP] will proceed backwards (to lower picket numbers).

`FIND PICKET#?_`   Enter the picket number for which you want the distance. If a number larger than the number of pickets is entered, the program will flash the largest number allowed and prompt again. If a 0 is entered, the routine will end.

If we enter a 4 using the example below, we get

`C#4 19 3/16`

Centerline of the fourth picket.

---

[1] A positive entry in this Offset field shifts all pickets to the right, e.g., an entry of 1.0 inches would move all pickets to the right one inch. This leaves a bigger gap on the left side than the right. To center pickets with a bigger gap on both ends, enter the offset and reduce the span by twice the amount of the offset. For example, to center pickets over a 72" span with a 1" bigger gap on both the left and right ends, enter an offset of 1.0 and a span of 70.

Example

The following input data show a span of 48.125", a picket width of 0.625", 1 picket per group, and a maximum space between pickets of 5.25". The Force Odd requires the calculator to use an odd number of pickets, and there is no offset.

Input data

SPAN= ?_ 48.125	Span is 48.125".
P_WIDTH= ?_ .625	Picket width is 0.625".
PICKET/GROUP= ?_ 1	Individual pickets (no groups).
MAX SPACE= ?_ 5.25	Max space we want is 5.25" between pickets.
FORCE ODD Y?_ Y	We want an odd number.
OFFSET= ?_ 0	There is no offset.

Calculated results

In this example, the Picket Placer was set up to calculate the centerline of each picket to the nearest 16th of an inch. This can be changed in the Setup routine to be as precise as 64^{ths} or even 100^{ths} of an inch.

9 P@ 4.25	Nine pickets are required for this span and there is 4.25" between each picket and the next.
C#1 4 9/16	Centerline of the first picket.
C#2 9 7/16	Centerline of the second picket.
C#3 14 5/16	
C#4 19 3/16	
C#5 24 1/16	
C#6 28 15/16	
C#7 33 13/16	
C#8 38 11/16	
C#9 43 9/16	
END OF LAYOUT	
PICKET PLACER	

The first character in the above output is a "C" indicating that the measurements are to a picket centerline. If the measurements are to the leading edge, the letter "E" will appear.

Rework Function Key

Pressing this function key will re-enter the last run routine without clearing the last input variables, allowing the user to modify or review the inputs.

Rise and Run / Angle Routines

If the RISE/RUN function key was pressed, the angle of the incline is entered by a inputting a RISE over a RUN. If the ANGLE function key was pressed, the angle of the incline is entered directly as an angle.

Prompt	User Response
RISE= xx.xx?_	(Appears if the RISE/RUN function key pressed.) Enter the rise for the run (to be entered below), in inches. The rise, together with the run entered below, define the angle of the incline.
RUN= xx.xx?_	(If RISE/RUN function key pressed.) Enter the run for the rise entered above, in inches. A 0 is not permitted. For example, you can enter a rise of 3 and run of 12 to describe a 3/12 pitch. If you don't know the pitch, you can enter the overall rise and run.
ANGLE= xx.xx?_	(If ANGLE function key pressed.) Enter the angle of the incline in degrees and decimal degrees.
LENGTH= xx.xx?_	Enter the correct length of the incline, in inches
P-WIDTH= x.xxx?_	Enter the width of picket, in inches.
PICKET/GRP= x?_	Enter the number of pickets per group. Allowed entries are 1, 2, and 3.
MAX SPACE= xx.xx?_	Enter the maximum space allowable between pickets. If a 0 is entered, the routine will ask for the number of pickets.
FORCE ODD Y?_	(Appears only if MAX SPACE is entered above.) To force an odd number of pickets, press YES. Pressing NO will allow an even or odd number of pickets.
# PICKETS= xx?_ # GROUPS= xx?_	(Appears only if 0 entered at MAX SPACE.) If there is 1 picket per group, the prompt # PICKETS appears; if there is more than 1 picket per group, the prompt # GROUPS appear. Enter the correct number of pickets or groups.
OFFSET= xx.xx?_	Enter the offset in inches.

Rise/Run and Angle Results

```
## P@ xxx.xx
```
The number of pickets and the space between the pickets is displayed. Push ENTER to continue.

```
xx.xx DEG@ xx.xx
```
The angle of the incline in degrees, and the distance along the incline between pickets.

[Setup] Function Key - Options

```
SETUP Y/N?_
```
Press YES to enter the options setup routine. Enter NO to quit.

```
FT & INCH Y/N?_
INCHES Y/N?_
METRIC Y/N?_
```
To have results printed in feet and inches (e.g., 4 - 5 3/16), press [YES] to the FT & INCH prompt. Otherwise press [NO] and then press [YES] to the INCHES prompt or to the METRIC prompt. You must press YES at one of these three prompts. (The default is Inches.)

```
ROUND xx?_
```
(Appears only for FT & INCHES or INCHES.) Calculated measurements can be given to a variety of precision as shown in the following table. Enter a number from the following table:

|	
100	for 1/100ths of an inch
8	for 1/8th of an inch
16	for 1/16th of an inch (default)
32	for 1/32nd of an inch
64	for 1/64th of an inch.

```
CENTERLINE Y/N?_
LDG EDGE Y/N?_
```
To have the picket distances reported to the centerline of the pickets, enter YES. If NO is press at first prompt, the second prompt appears. To have the picket distances reported to the leading edge of the pickets, press YES. You must press YES at one of these two prompts. (The default is Centerline.)

Battery Replacement & Maintenance

## Adjusting the Display Contrast
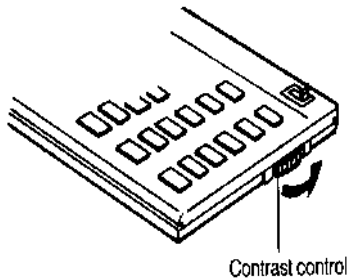
The calculator is equipped with a control to adjust the contrast of the LCD (liquid crystal display). While looking at the display from a position about 70 degrees above the keyboard, first increase the contrast until black squares are clearly visible behind the characters and then decrease the contrast slowly until the squares just disappear.

Contrast control

If the display contrast becomes too dim, the batteries should be replaced.

Battery Replacement

To replace the batteries, you should first have replacement batteries at hand. Two lithium type CR2032 batteries and a small screwdriver are required.

1) Make sure the calculator is turned off. Place the calculator face down on a table with the contrast control in the upper left-hand corner (the writing on the back of the calculator will be right side up).

Battery cover

Stopper
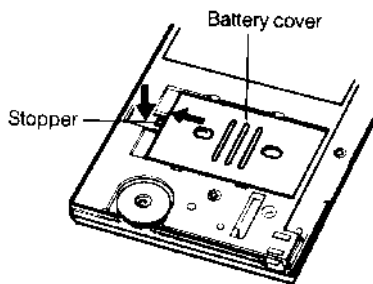
2) Remove the Software Cartridge from the calculator.

3) Using a small screwdriver, remove the two screws holding the back. While lifting the edge of the calculator's back cover closest to you, slide it up to remove it.

4) Slide the silver-colored battery compartment cover upwards to open the compartment; remove the cover. The batteries are now disconnected; remove and discard them.
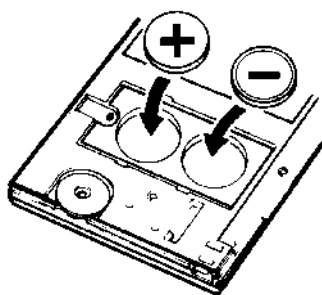
5) Install the new batteries, making sure the polarity (+ and -) is correct, and replace the battery compartment cover. (Make sure to replace the battery compartment cover--the batteries are not connected unless the battery compartment cover is in place.) Replace the back of the calculator by first hooking the 3 tabs on the top and then lowering the edge closest to you so you can replace the 2 screws.

6) Replace the Software Cartridge in the calculator. If it has been out of the calculator for more than about 5 minutes, you will have to initialize it. See below.

Initializing the Software Cartridge

After replacing the batteries or if you remove the Software Cartridge from the calculator, you may need to initialize the Software Cartridge with the following steps. Software Cartridges have a label on the back side (the side that faces the calculator) which has instructions similar to the following.
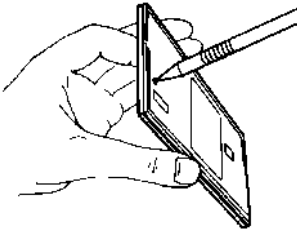
1) Install the Software Cartridge in the calculator. With a pencil or straightened paper clip and the calculator ON, push the "ALL RESET" button on the left side of the back of the calculator. You should see 4 stars in the display (2 on the left, 2 on the right). (On some calculators, there may be a white label over the "ALL RESET" button. If so, gently lift up the lower left corner to reveal it)

2) Push [ENTER]. You should now see a single star at the right edge of the display.

3) Turn the calculator off, wait a few seconds, and then turn it back on. You should see "0." in the display. The calculator is now ready to be configured.

4) Push the [Setup] key. You should see "CONFIGURING..." appear for a moment and then, after several seconds, the calculator will be configured.