AutoNC   NC soft for Machine Shop

Home Page   http://www.autonc.jp
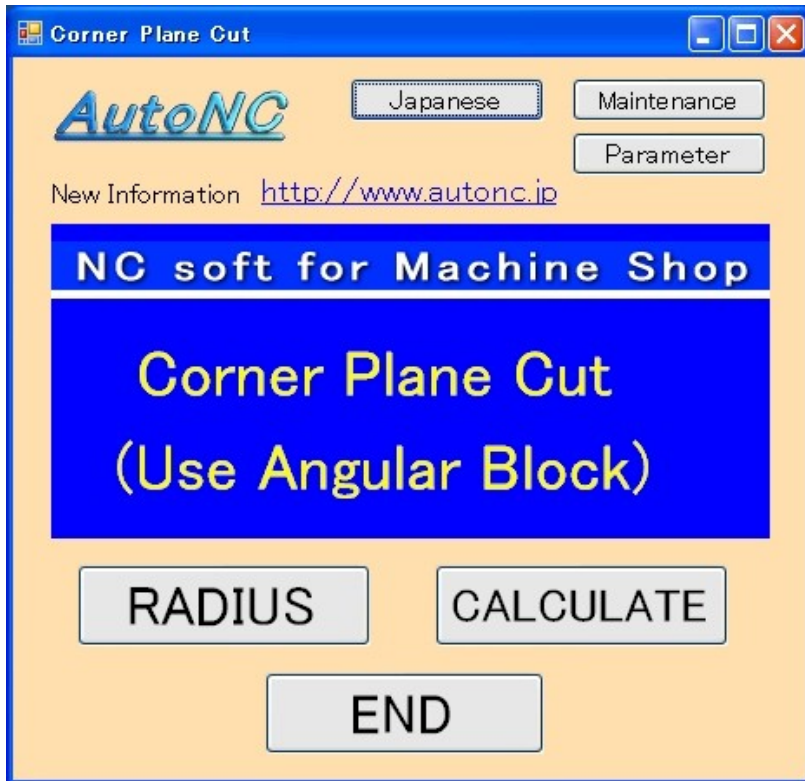
The Corner Plane Cut Manual

When you machine a steel block on the angle table or on the angle block, this software is used.

[Japanese]
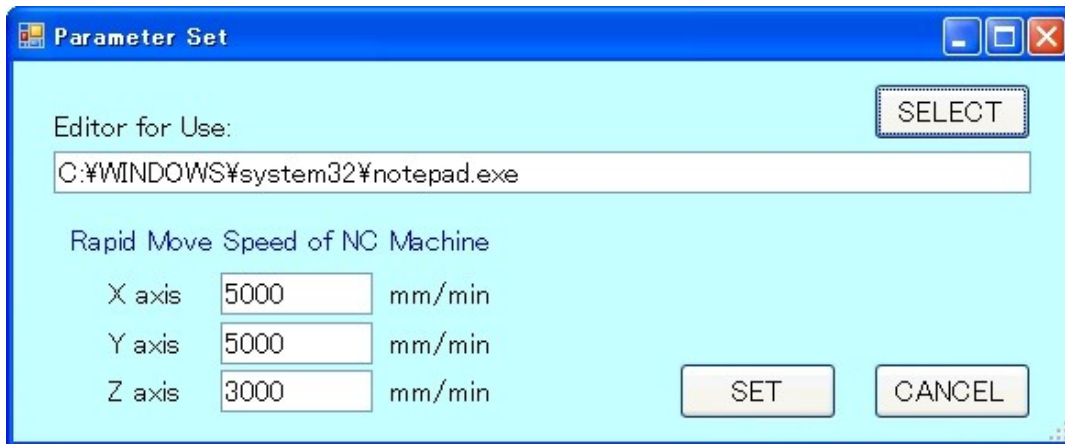
When pushing this button, it becomes Japanese display.

You specify an editor for the editing.

You start up the editor at the "EDIT" button of the program.

At present, you aren't using the rapid move speed of the machine tool.

Parameter Set

Editor for Use: SELECT

C:¥WINDOWS¥system32¥notepad.exe

Rapid Move Speed of NC Machine

    X axis   5000   mm/min

    Y axis   5000   mm/min

    Z axis   3000   mm/min   SET   CANCEL

[RADIUS]

CORNER CUT RADIUS TOOL

CORNER CUT RADIUS

ラジアス工具

A. Diameter: 50 mm
B. Corner R 8 mm
Feed Rate: 1000 mm/min
Spindle Speed: 1200 rev/min
D. Z Down Value: 1 mm
E. Std. Cutting Width: 25 mm
F. Limit Cutting Width: 40 mm
G. Remainder: 0 mm
H. Distance X: 10 mm

○ 1way ● 2way   G92   ○ Yes ● No

Y Axis Start Point is Free.

I. Rapid Move Height 30 mm
J. Angle(+) 55 mm
K. Start Height 0 mm
K. End Height -50 mm
L. Y Start Point 100 mm
M. Y End Point 0 mm

Write Holder:
C:¥

Check File: KadomenCheck [EDIT]
File Name: Kadomen [EDIT]

[SELECT]

---- Graphic Display ----
[NC CHECK] [NC DISPLAY]

[START]
[CANCEL]

Data Area

It makes a corner X0Z0.
And it enters data.

You enter angle in the range of 0 to 90.   (0 < J.Angle < 90)
It becomes an angle (90 - angle) in opposite side.
When it is not below the decimal point, the decimal point can be omitted.

The Y axis data moves from Y Start Point to Y End Point by one-way cut or two-way cut (the range with same Z   height).
The starting point of the Y axis is optional.
When it is not below the decimal point, the decimal point can be omitted.

Y Axis Start Point is Free.

I. Rapid Move Height	30	mm
J. Angle(+)	55	mm
K. Start Height	0	mm
K. End Height	−50	mm
L. Y Start Point	100	mm
M Y End Point	0	mm

It makes a NC data in the range from Start-Height to End-Height.
Enter Start-Height and End-Height.

For example, it is possible to do the machining of addition when putting from 0 to -30 in the 1st machining and putting from –30 to -50 in the 2nd machining.

30 degrees

60 degrees
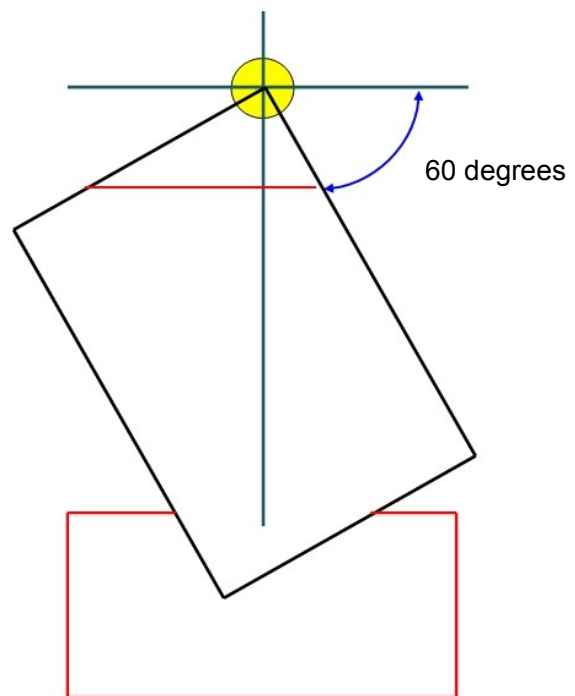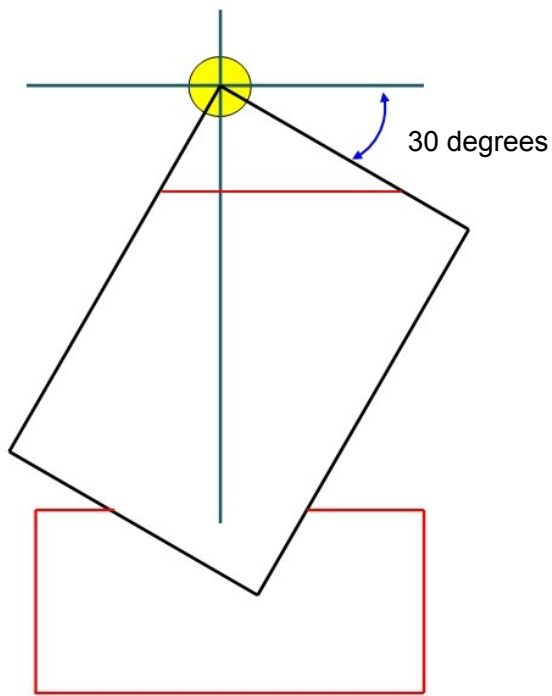
Even if it uses the same angle block, with the direction to set, the angle changes.

First, you bring a turning center to the upper left and set the block horizontal. (Angle 0)
After that, the angle that lowered the right becomes J. angle (+).

(The side with the angle that is more minor gets wide from centerline.)
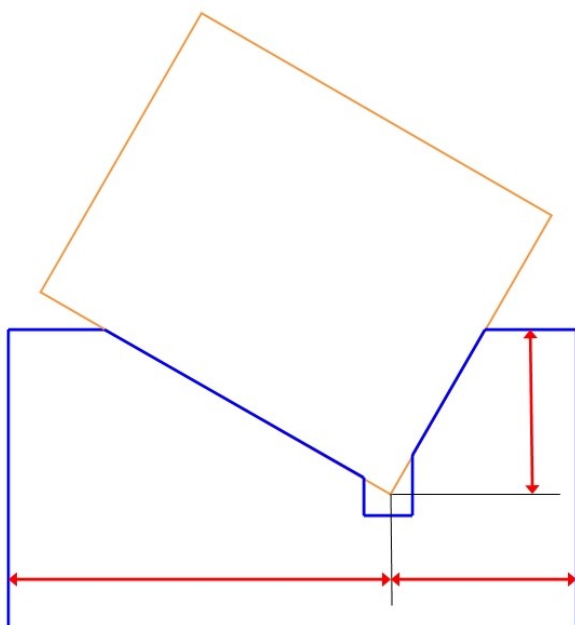
When measuring a distance from the corner beforehand at the angle block, the position of X0Z0 becomes easy to let out from the result of "the angle calculation".

When the precision isn't necessary
You turn a tool and set a tool center to the corner by the X-direction.
And you go down a tool to the point of a blade hit a corner.
You set to X0Z0.

Cutting Condition

A. Diameter:	50	mm
B. Corner R	8	mm
Feed Rate:	1000	mm/min
Spindle Speed:	1200	rev/min
D. Z Down Value:	1	mm
E. Std. Cutting Width:	25	mm
F. Limit Cutting Width:	40	mm
G. Remainder:	0	mm
H. Distance X:	10	mm

<The thinking way of cutting width>

D.Z Down Value, every time it goes down, the width to cut is computed.

The width of cuts is to the position which cutter R comes off touch with block from the position that touches the block.
(If you input 0 in H, and computes and display in the XZ plane, you understand.)

It cuts off a quotient with (the width / E. Std.cutting width) and it decides the cut number of times.
If it doesn't exceed F.Limit cutting width, it moves a tool at the pace.
When exceeding a F.width, it divides by the cut number of times +1 once more and it decides a pace.

H. When moving Z by rapid move, it takes a distance of this width from steel block.
(Refer to Data Area picture)

G.Remainder is the remaining finish value.
(As for general, it assumes 0.)

NC Output

You choose one-way or two-way with the radio button.
When choosing one-way, it moves from the Y start point only to the direction of the Y end point.
When returning to the Y start point, Z rises to the rapid moving height, and moves a pitch after returning to the previous staring-point.

You choose Yes or No at the <G92>.
When you choose Yes, G90G92X0Y0Z(the rapid move z height) is stored.
When it is No, G90X0Y0; G01Z(the rapid move z height) is stored.
(For the details, you refer to the NC data).

"Select" At the button, it selects a write folder.

○ 1way ⊙ 2way   **G92**   ○ Yes ⊙ No

Write Holder:

C:¥   SELECT   START

Check File: KadomenCheck   EDIT   ---- Graphic Display ----   CANCEL
File Name: Kadomen   EDIT   NC CHECK   NC DISPLAY

You enter a file name.
The "Check file" simulates NC movement before actual NC data and confirms data inputs.
" Edit " When pushing the button, the editor starts up and opens a file.

It is possible to display the NC data.

When pushing the "Start" button after fill in all data, the NC data of the file name is created in folder.
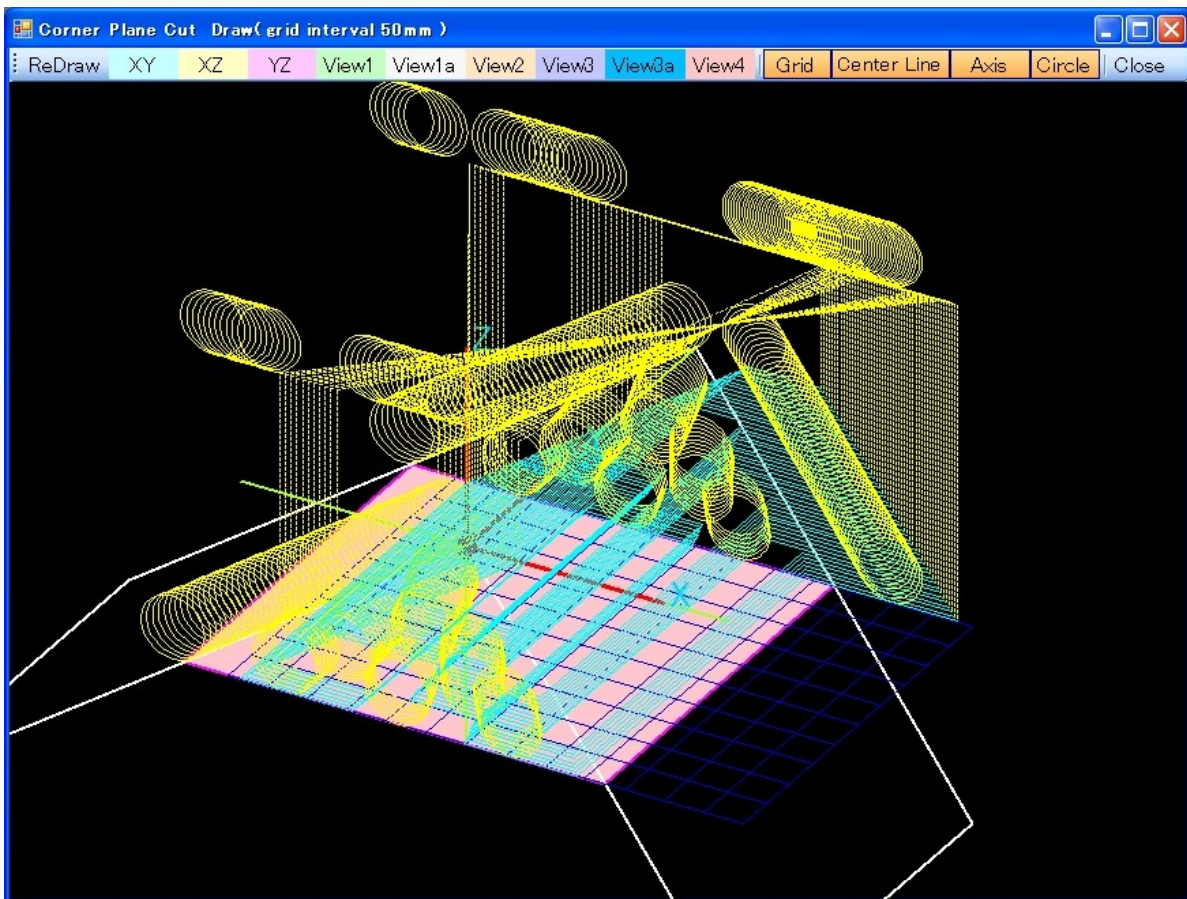
When pushing the "Cancel" button, it ends.
Input data is saved and is restored in the next time.
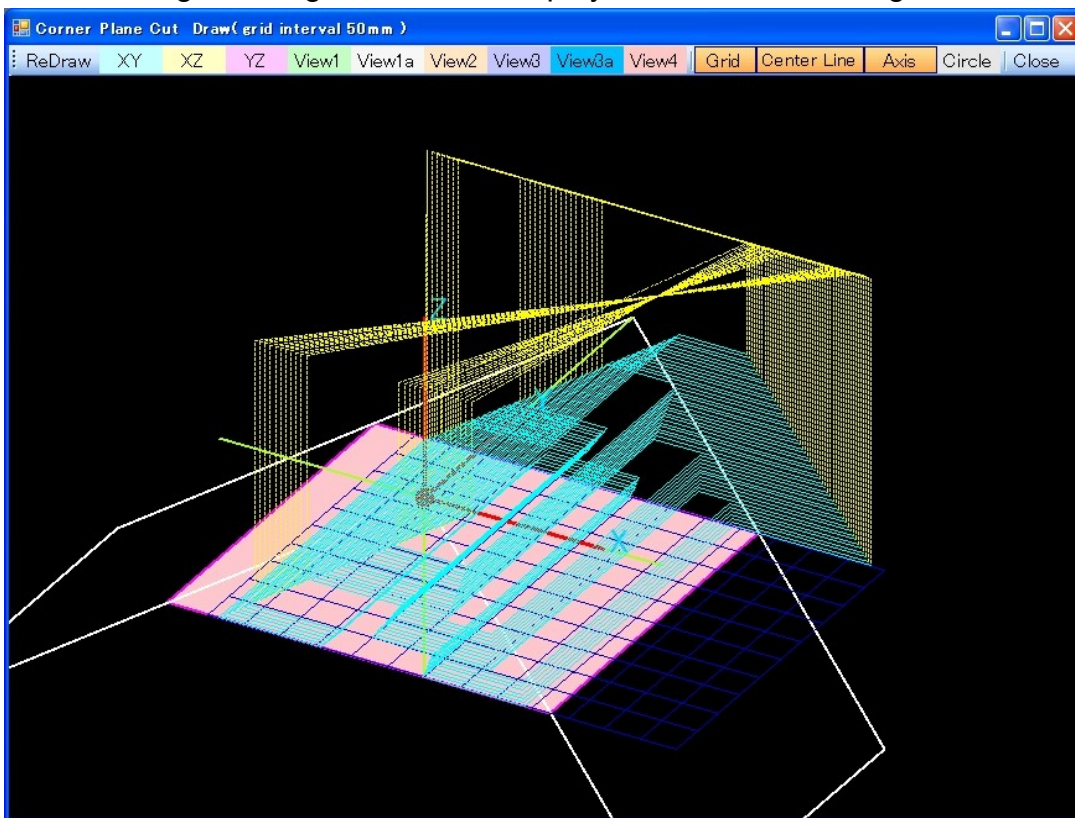
The Display of the NC data

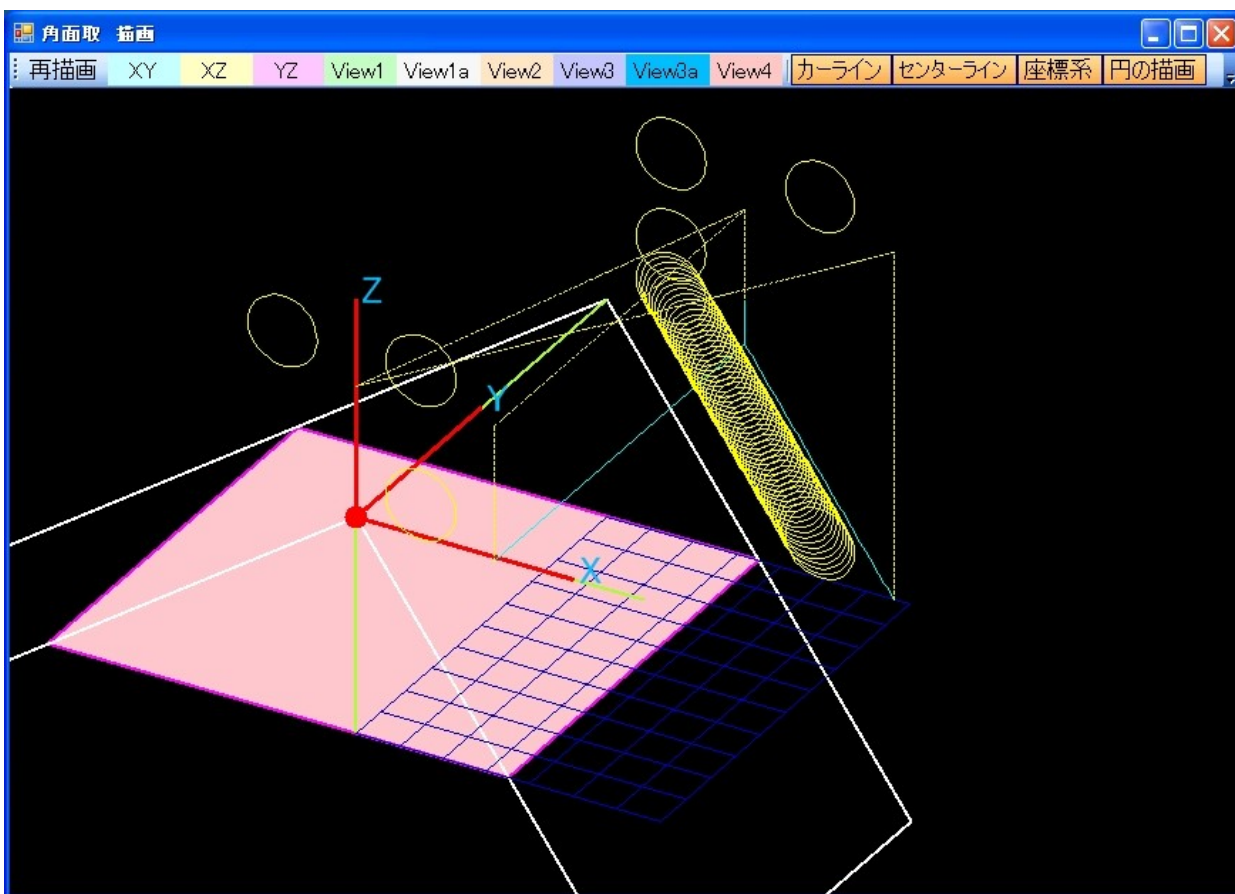The following shows by "NC DISPLAY" button. This figure is shown in "the XZ plane".

It is displaying the tool chip diameter.
(Because "Circle" is on)
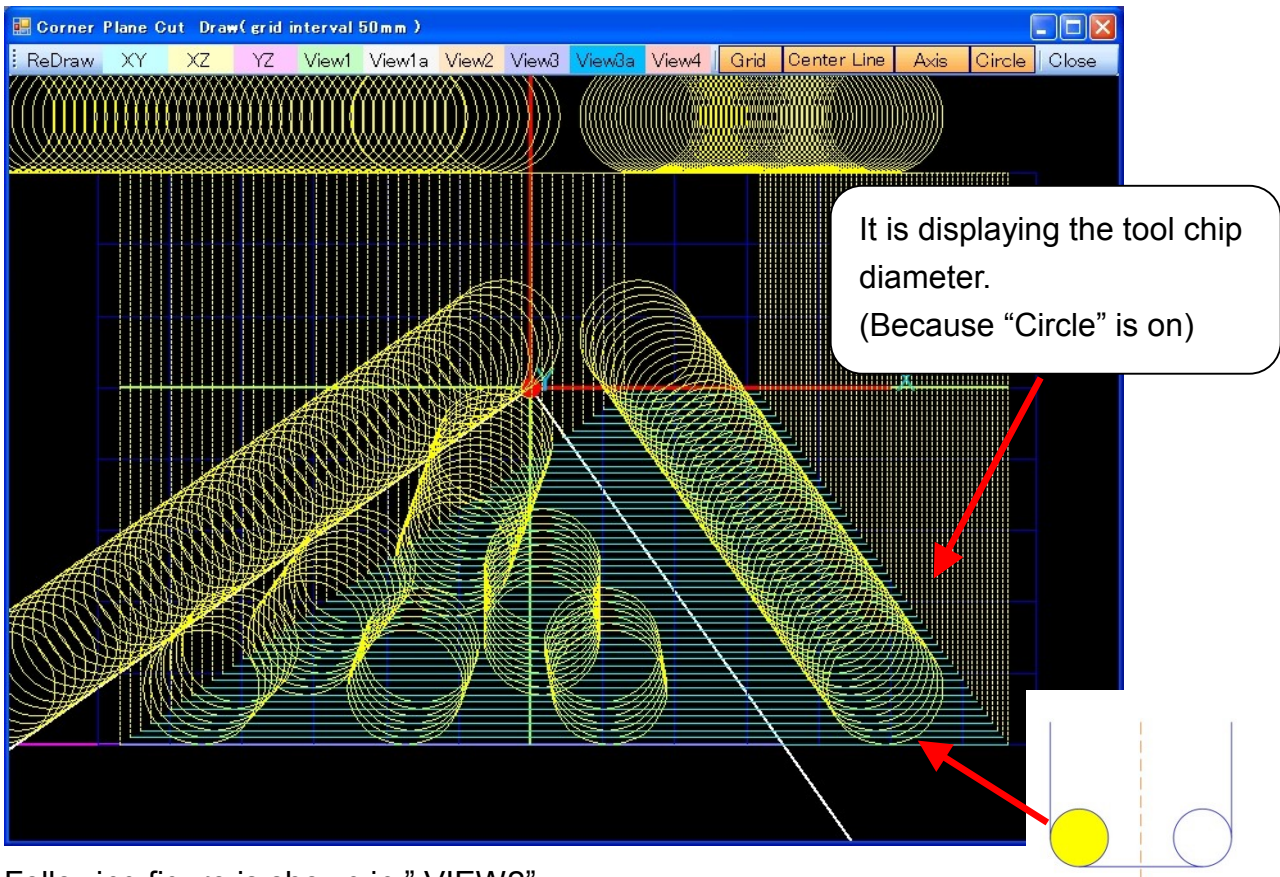
Following figure is shown in " VIEW2".

The following is the figure that was displayed with "Circle" being off.

The following figure is displaying a "Check File".

You can understand a width of cuts and a shape.

The Display menu

You can select the display direction.

XY plane , XZ plane ,YZ plane, View1, View1a, View2, View3, View3a, View4.

View* is the show which was seen from the diagonal top.

View1, View2, View3, View4 are the show which was seen from 30 degrees above from just beside.

View1a, View3a are the show which was seen from 60 degrees above from just beside.

The show button of Grid, the centerline, the Axis, Circle becomes on.

When making "Grid" off, the grid of blue 50㎜ disappears.

When making "Centerline" off, the olive-green X axis, the Y axis, the Z axis disappear.

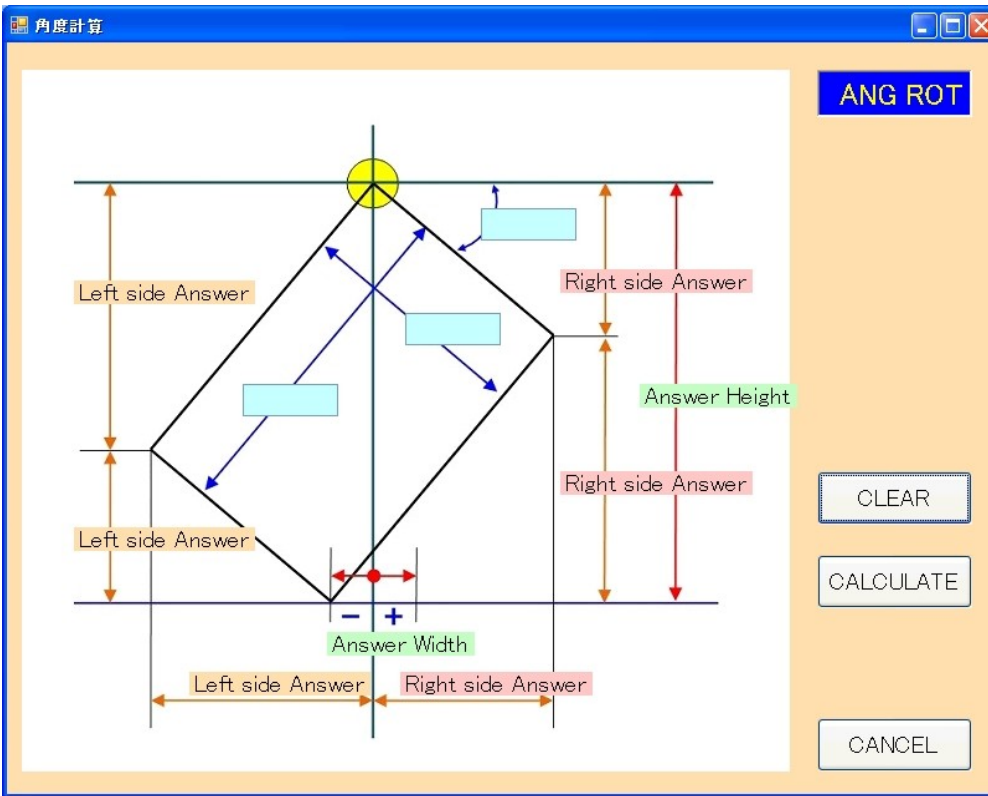When making "Axis" off, the coordinate system of the X, the Y, Z disappears.

When making "Circle" off, the tool diameter display disappears.

The part can be displayed in the expansion when clicking with the mouse and dragging.

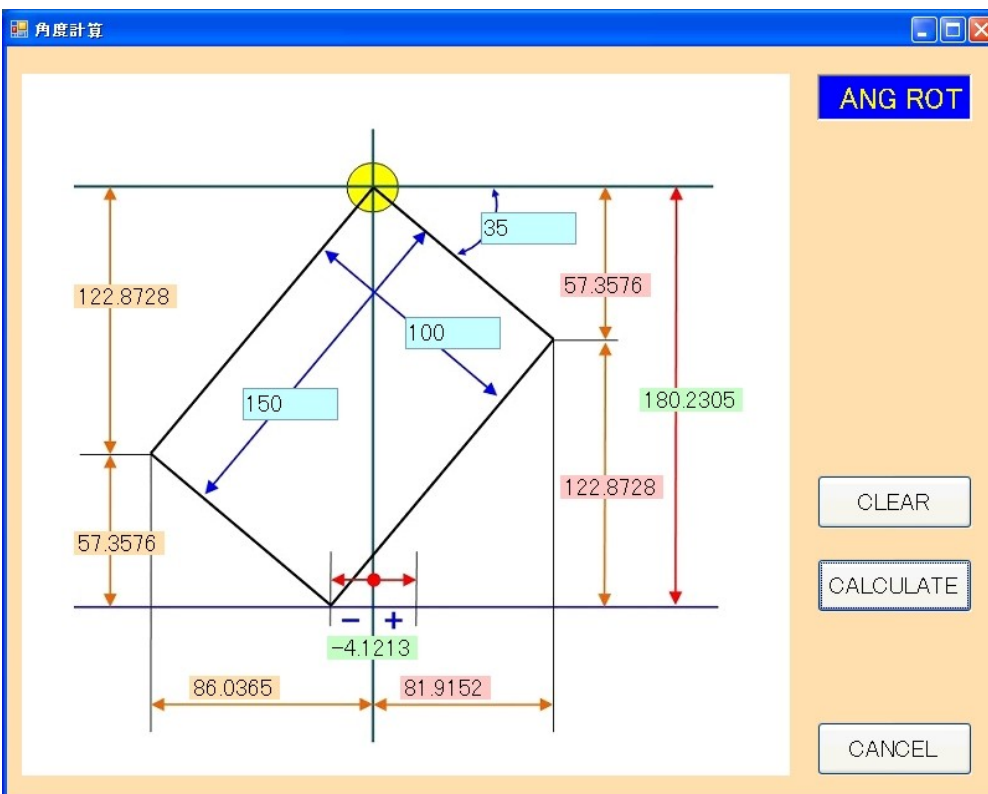It returns to the ex-screen by "Close".

[CALCULATE]

For the first time or when pushing the "CLEAR" button, this figure is displayed.

The following figure is displayed when inputting a positive value to the light-blue space and pushing the "CALCULATE" button.

The area of green below becomes the right at the time of + and at the time of -, it becomes the left side.

The above