The Hurco Advantage

NC Merge with Patterns

HURCO®

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Fanuc G-Code Program

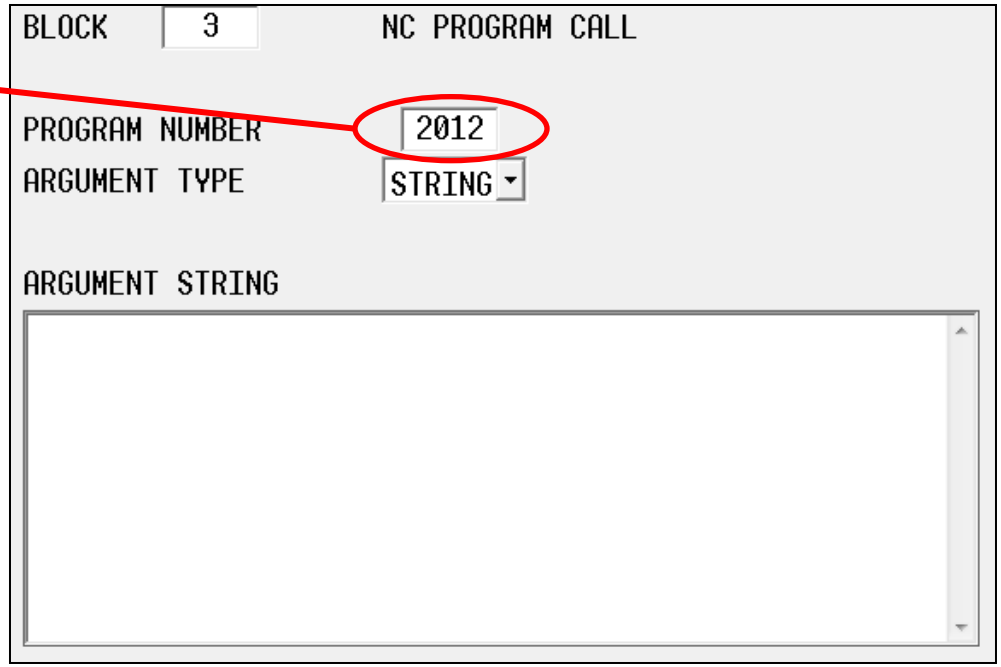
Supplied NC Program

```
%
O2012(HURCO ENGRAVE)
(MATERIAL - ALUMINUM INCH - 2024)
( T1000 |  1/8 BALL ENDMILL )
N100 G20
N102 G0 G17 G40 G49 G80 G90
N104 T1000 M6
N106 G0 G90 X-1.9763 Y.5024 S12000 M3
N108 Z.25
N110 Z.2
N112 G1 Z-.01 F200.
N114 Y.0024 F20.
N116 F200.
N118 Y-.4976 F20.
N120 G0 Z.24
N122 Z.25
N124 Y.0024
N126 Z.2
N128 G1 Z-.01 F200.
N130 X-1.3691 F20.
N132 F200.
N134 Y-.4976 F20.
N136 G0 Z.24
N138 Z.25
N140 Y.0024
N142 Z.2
```

NC Merge Block

Calling Supplied NC Program

```
%
O2012(HURCO ENGRAVE)
(MATERIAL - ALUMINUM INCH - 2024)
( T1000 |  1/8 BALL ENDMILL )
N100 G20
N102 G0 G17 G40 G49 G80 G90
N104 T1000 M6
N106 G0 G90 X-1.9763 Y.5024 S12000 M3
N108 Z.25
N110 Z.2
N112 G1 Z-.01 F200.
N114 Y.0024 F20.
N116 F200
```

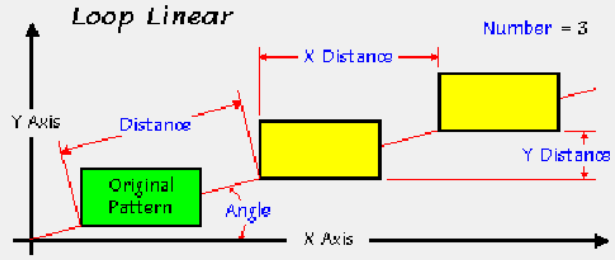


NC Merge with Patterns

Loop Linear

BLOCK 1 PATTERN LOOP LINEAR

NUMBER	3	ANGLE CAL	90.000
X DISTANCE	0.0000	DISTANCE CAL	2.0000
Y DISTANCE	2.0000		



DATA BLOCKS

1. PATTERN LINEAR (3)
2. NC PROGRAM (P2012)
3. PATTERN END

END OF PROGRAM

NC Merge with Patterns

Loop Rotate with Scale & Mirror

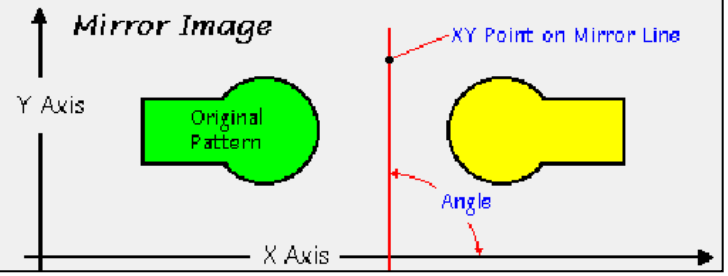
BLOCK 1 PATTERN MIRROR IMAGE

KEEP ORIGINAL YES

X 1.5000

Y 0.0000

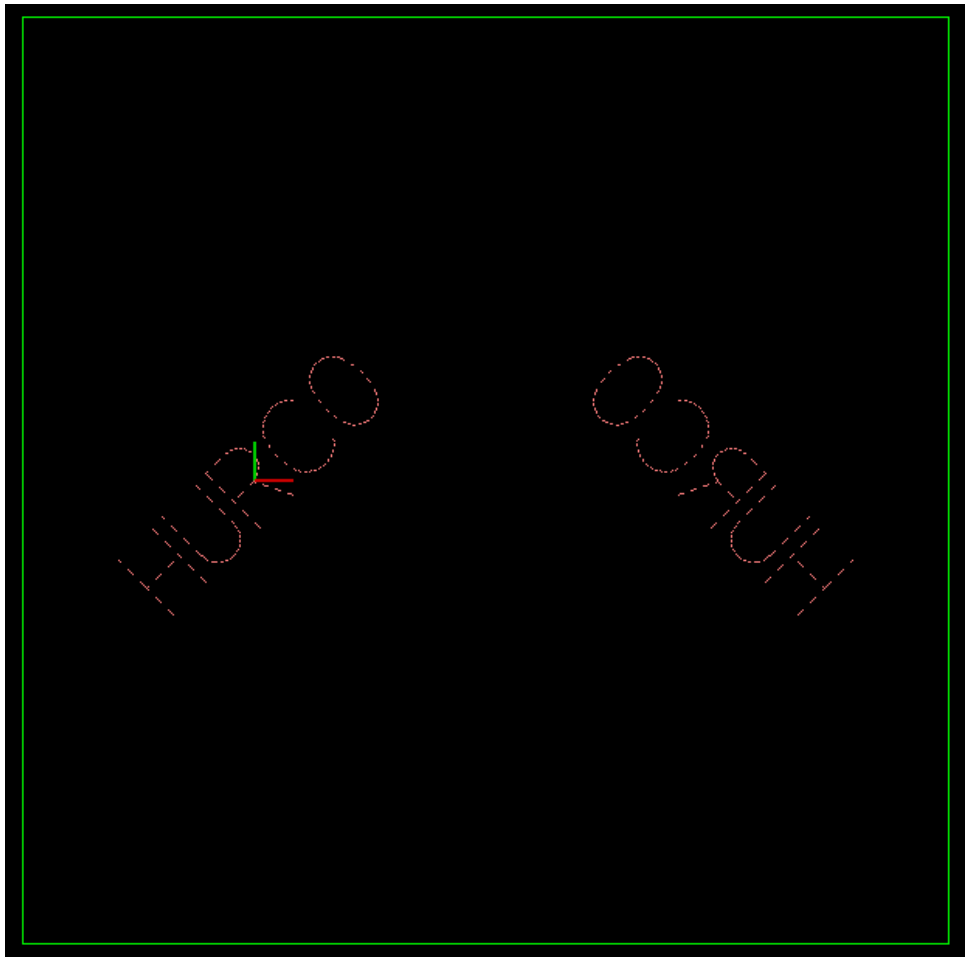
ANGLE 90.000



DATA BLOCKS

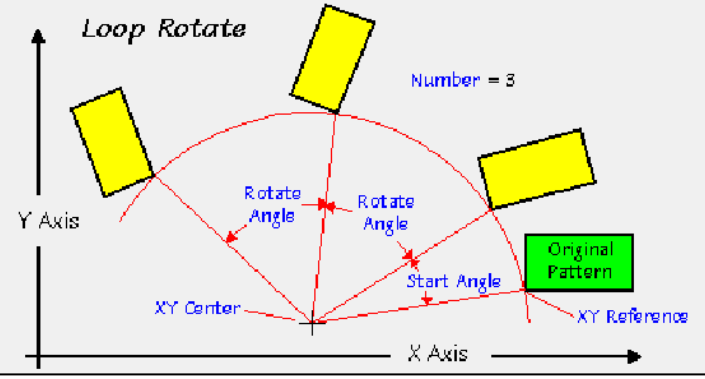
1. PATTERN MIRROR
2. PATTERN ROTATE (1)
3. PATTERN SCALE
4. NC PROGRAM (P2012)
5. PATTERN END
6. PATTERN END
7. PATTERN END

END OF PROGRAM



BLOCK 2 PATTERN LOOP ROTATE

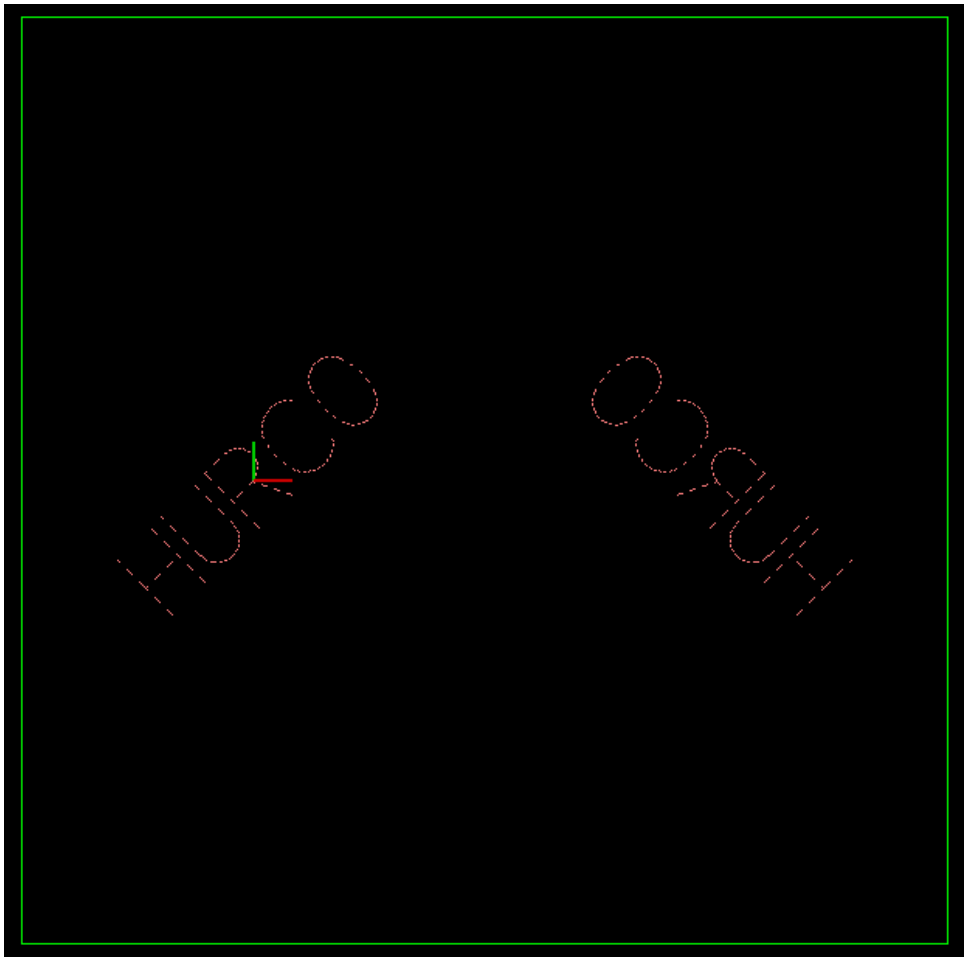
NUMBER	1	START ANGLE	45.000
X CENTER	0.0000	ROTATE ANGLE	45.000
Y CENTER	0.0000		



DATA BLOCKS

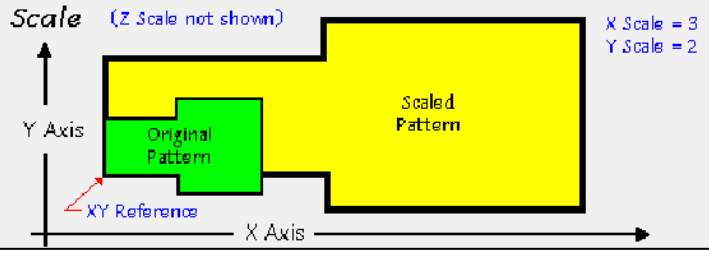
1. PATTERN MIRROR
2. PATTERN ROTATE (1)
3. PATTERN SCALE
4. NC PROGRAM (P2012)
5. PATTERN END
6. PATTERN END
7. PATTERN END

END OF PROGRAM



BLOCK 3 PATTERN SCALE

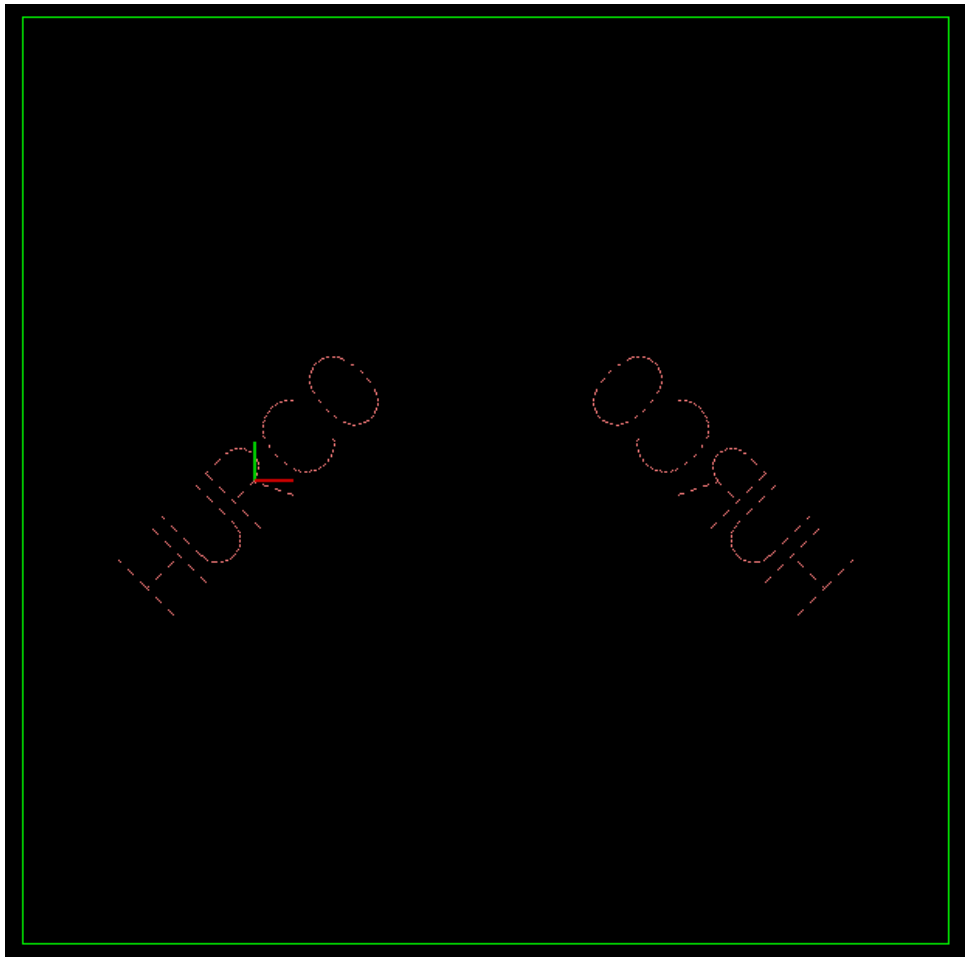
X REFERENCE	0.0000	X SCALE	0.500
Y REFERENCE	0.0000	Y SCALE	0.500
Z REFERENCE	0.0000	Z SCALE	1.000



DATA BLOCKS

1. PATTERN MIRROR
2. PATTERN ROTATE (1)
3. PATTERN SCALE
4. NC PROGRAM (P2012)
5. PATTERN END
6. PATTERN END
7. PATTERN END

END OF PROGRAM

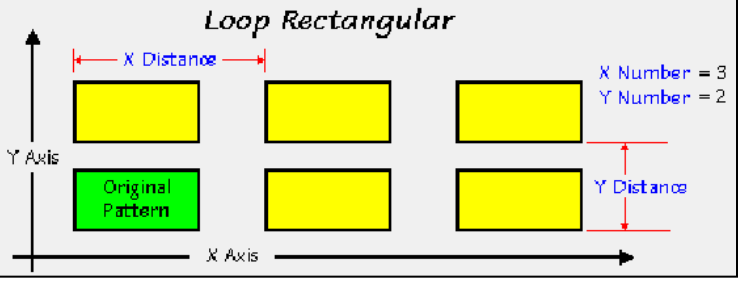


NC Merge with Patterns

Scale & Loop Rectangular

BLOCK 1 PATTERN LOOP RECTANGULAR

X NUMBER	4
Y NUMBER	5
X DISTANCE	1.2500
Y DISTANCE	1.0000

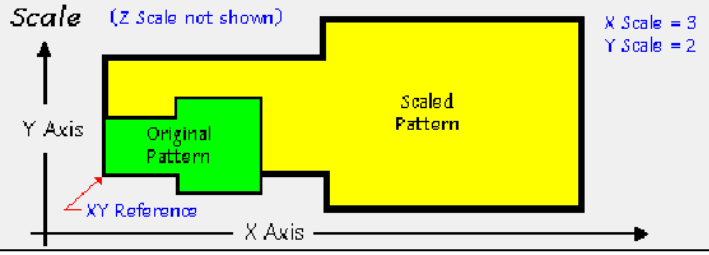


DATA BLOCKS

1. PATTERN RECTANGULAR (4,5)
2. PATTERN SCALE
3. NC PROGRAM (P2012)
4. PATTERN END
5. PATTERN END

END OF PROGRAM

BLOCK	2	PATTERN SCALE	
X REFERENCE	0.0000	X SCALE	0.250
Y REFERENCE	0.0000	Y SCALE	0.250
Z REFERENCE	0.0000	Z SCALE	1.000



DATA BLOCKS

1. PATTERN RECTANGULAR (4,5)
2. PATTERN SCALE
3. NC PROGRAM (P2012)
4. PATTERN END
5. PATTERN END

END OF PROGRAM

NC Merge with Patterns

5-Axis Transform Plane

BLOCK 3 TRANSFORM PLANE

ORIENT METHOD ANGLES

ORIGIN POINT

X	0.0000
Y	-3.0000
Z	-3.0000

ROTATION ANGLES

R(X)	90.000
R(Y)	0.000
R(Z)	0.000

DATA BLOCKS

1. ROTARY POSITION
2. NC PROGRAM (P2012)
3. TRANSFORM PLANE
4. NC PROGRAM (P2012)
5. TRANSFORM PLANE END
6. TRANSFORM PLANE
7. NC PROGRAM (P2012)
8. TRANSFORM PLANE END