

P.E.P. vs. Brand “X”

The parts selected for following benchmark and the Brand “X” information was forwarded to us by the company requesting the benchmark. The table below lists the drawings supplied by the company, the quantities and the plate sizes we were requested to nest.

Benchmark Summary

#	Drawing	Qty. Req.	Plate Size	Head Raises vs. Rapids
1	15-06778	25	48x96	PEP 18 of 200
2	A52981	19	60x120	PEP 19 of 171
3	A60632	32	48x96	PEP 3 of 320
4	L11-1016	18	60x96	PEP 25 of 180
5	07-06960-1	128	60x96	PEP 22 of 896
6	K056-4283-3	61	60x96	PEP 8 of 183

Speed of Nesting

Both automatic nesting engines were able to nest each part in less than 30 seconds per nest. The actual time to convert the parts, sequence the cutter path, find errors, fix errors, assign lead-ins, locate the parts to be nested and post processing was not evaluated.

Material Yield (refer to pages 2 through 7)

The P.E.P. automatic nesting engine required **LESS THAN** one plate in each of the six tests.

The Brand “X” automatic nesting engine required **MORE THAN** one plate in six out of six tests.

Head Raise vs. Rapids

The head raise time of the laser is a constant that varies slightly from laser to laser, it is not a function of the material. The actual amount of time spent raising the head prior to moving to the next pierce is often 15 to 30 percent of the total laser cutting time. The percentage of machine time depends upon the speed of cutting, as the speed increases the percentage increases.

The following variables effect the laser head up and down:

- . the height the head is raised (full, partial or no head raise)
- . the weight of the head
- . the height sensing logic’s ability to detect the material and stop.
- . the organization of the parts (rows & columns) **as nested by the Automatic Nesting software**
- . the CAD CAM software’s **ability to sequence the nest, assign lead-ins and output the proper type of head positioning, full, partial and no head raise.**

Eliminating head raises, depending upon the application, the machine and the material, the P.E.P. software will assign the lead-ins so that the laser head moves from cutout to cutout and part to part without traveling over the previous cutouts eliminating the need for a head raise. In cases where the path must travel over a cutout or a previously cut part, the P.E.P. logic outputs a mandatory head raise to ensure that the head does not dive into the material or crash. The total number of mandatory head raises output by P.E.P. is displayed on the screen above the nest, in nesting reports and on nested plots. The right column in the table above displays the mandatory head raises output by P.E.P. in this benchmark. The Brand “X” software can post process a nest so that the head remains down, however, when posting in this mode they do not support sub routines creating memory problems unless they have a mandatory head raise between parts. Unlike PEP. The Brand “X” user must also be aware that the head raise logic does frequently fail to output a cutter path that works correctly, especially in non linear machines where the rapid path travels at a 45 degree angle. For that reason, Brand “X” customers rarely run with the head down, whereas, nearly all current PEP customers run with the head down all of the time.

Drawing: 15-06778.dxf

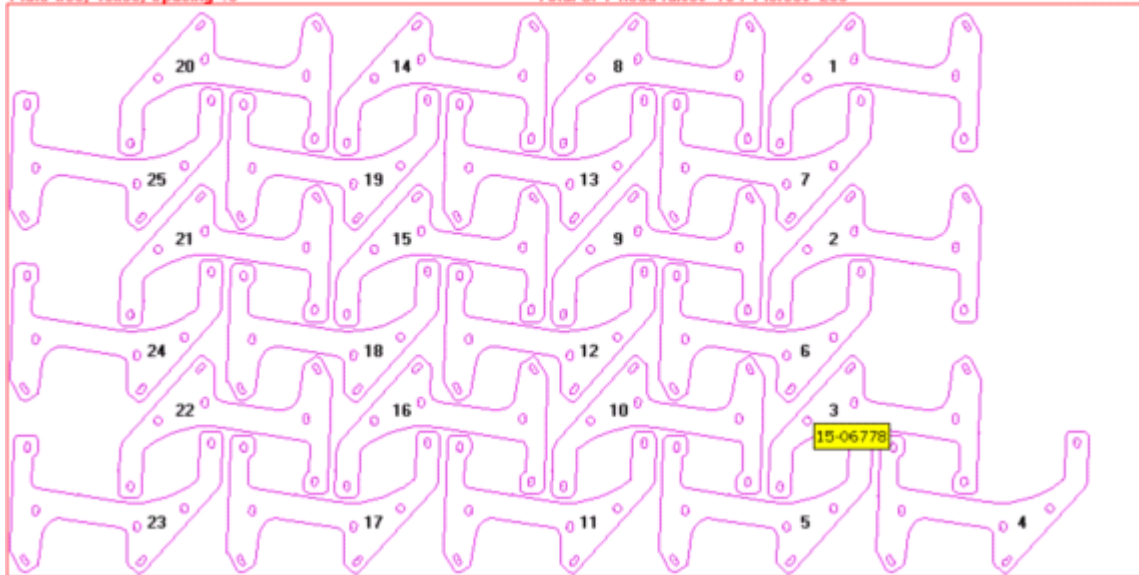
PEP Nested the required 25 parts in less than one sheet.

Brand "X" required 1 and 1/8 sheets to nest the required parts.

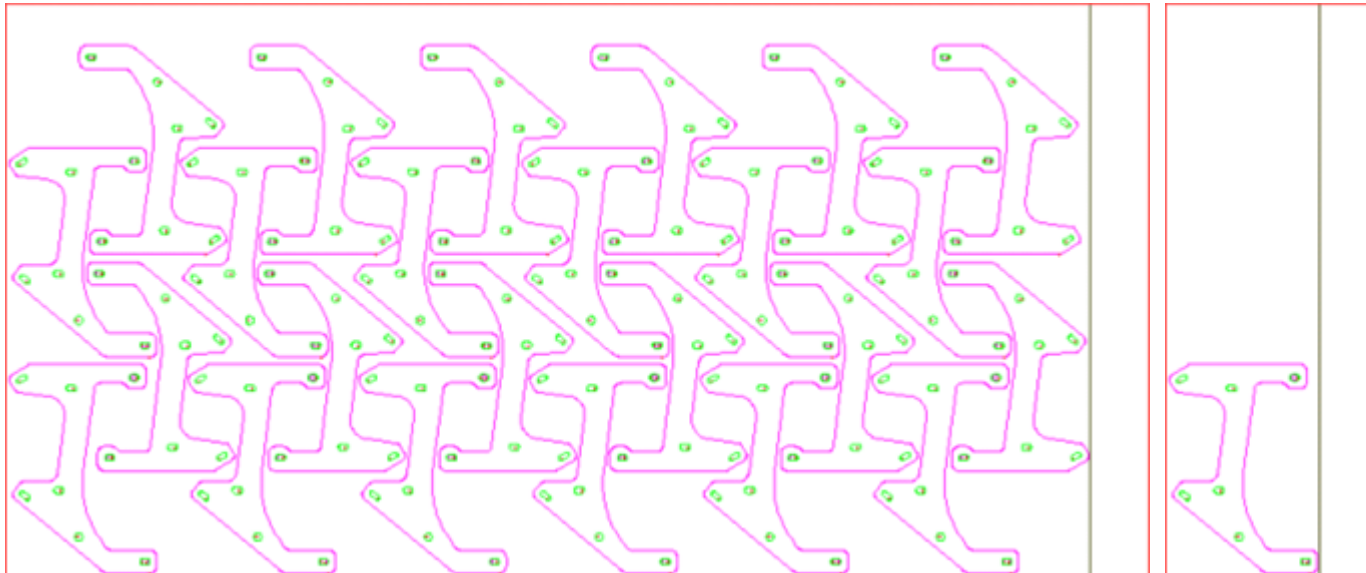
Drawing	Qty / Req	Loops
15-06778	25 / 25	{D1}2,3,4,5

Plate #00, 48x96, Spacing= 3

Total CPT head raises=18 / Pierces=200



The results below were nested with Brand "X"



A52981.dxf

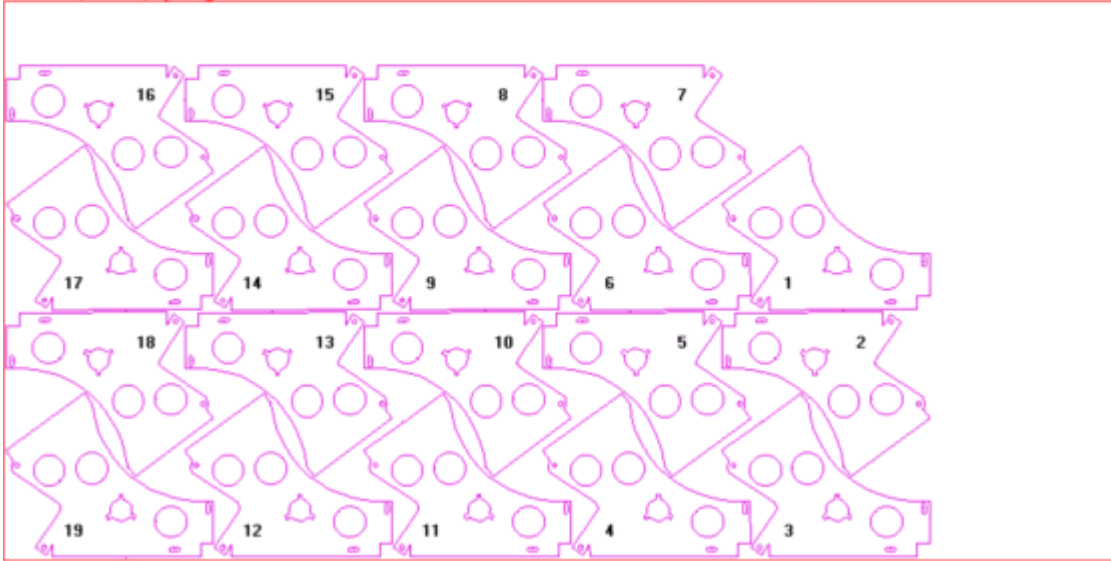
PEP Nested the required 19 parts in less than one sheet.

Brand "X" required 1 and 1/4 sheets to nest the required parts.

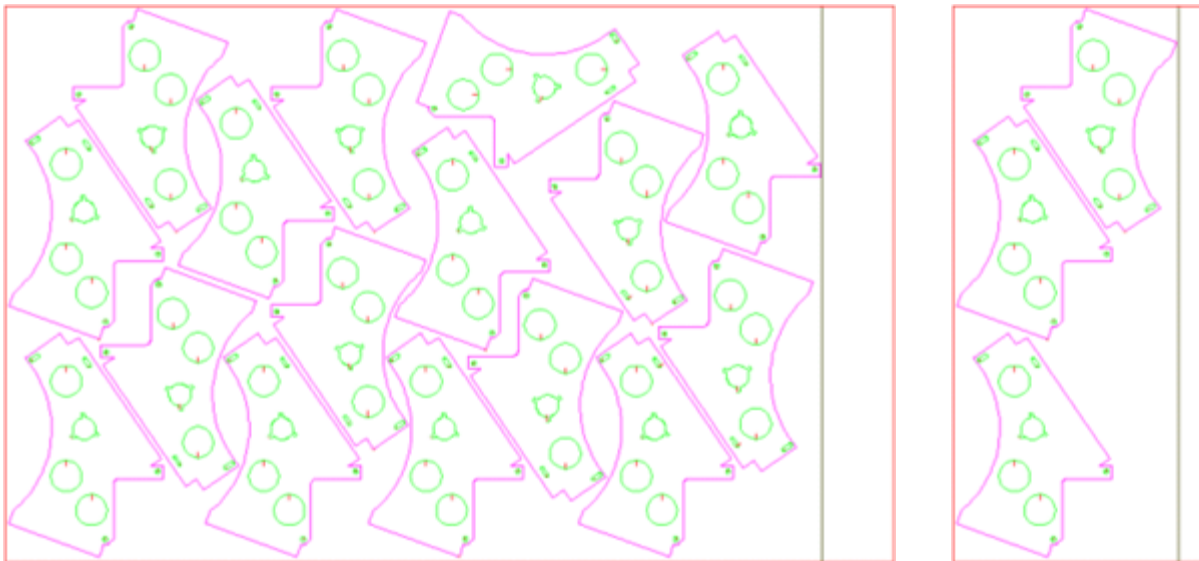
Drawing	Qty / Req	Loops
A52981	19 / 19	(D1)2,3,4,5

Plate #00, 60x120, Spacing= 3

Total CPT head raises=19 / Pieces=171



The results below were nested with Brand "X"



Drawing: A60632.dxf

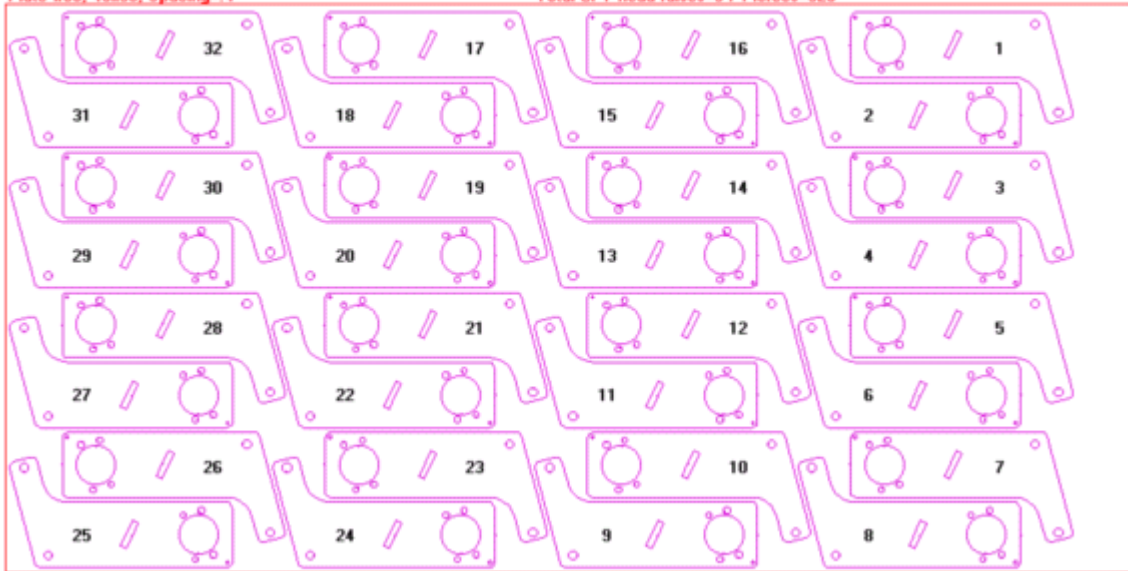
PEP Nested the required 32 parts in less than one sheet.

Brand "X" required 1 and 1/3 sheets to nest the required parts.

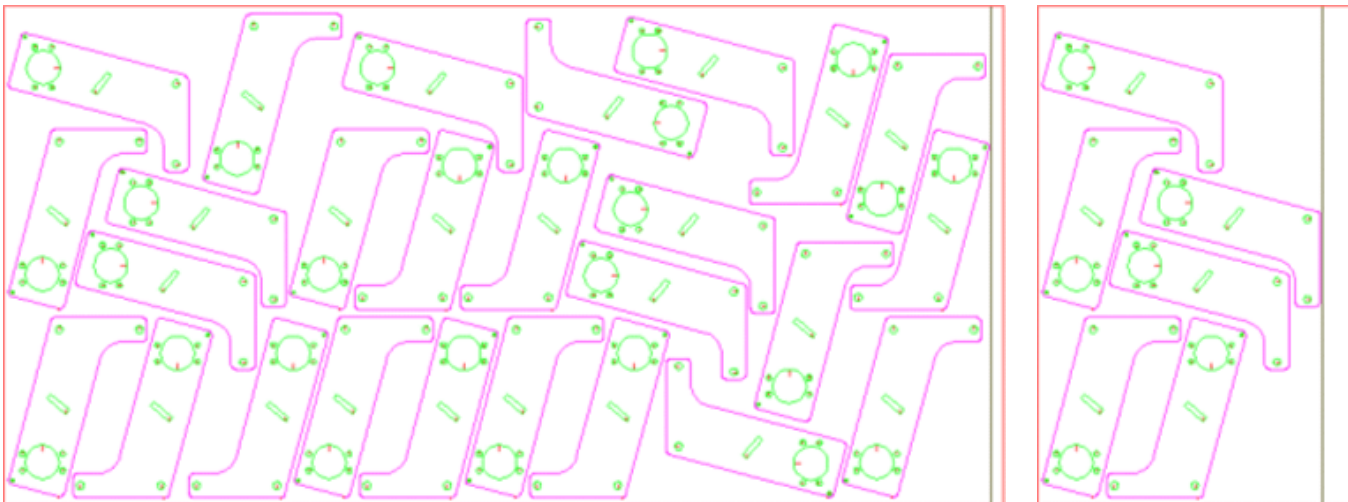
Drawing	Qty / Req	Loops
A60632	32 / 32	(D1)2

Plate #00, 48x96, Spacing= 4

Total CPT head raises=3 / Pierces=320



The results below were nested with Brand "X"



Drawing: L11-1016.dxf

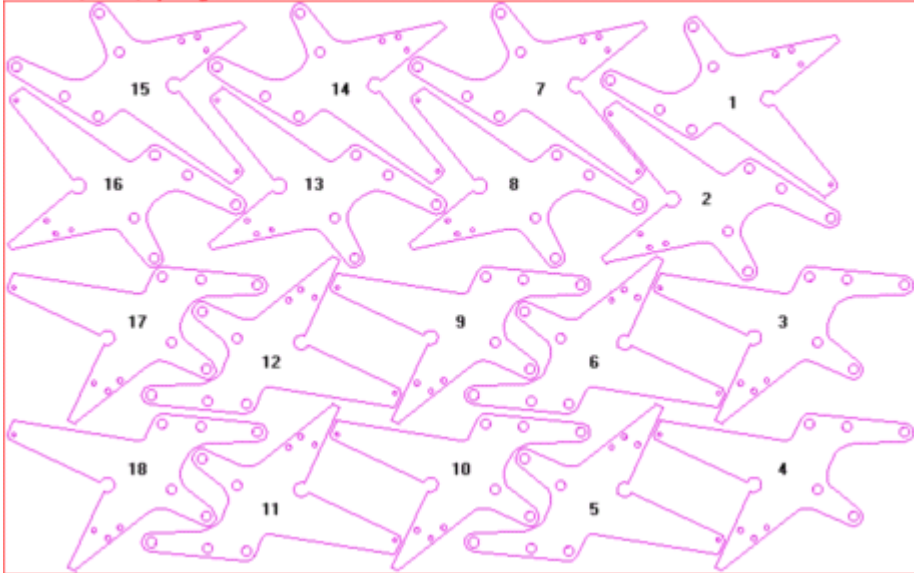
PEP Nested the required 18 parts in less than one sheet.

Brand "X" required 1 and 1/3 sheets to nest the required parts.

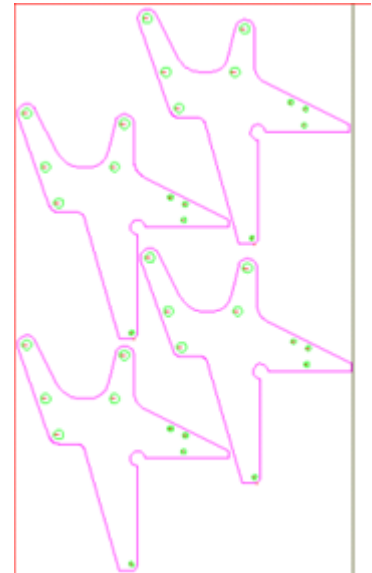
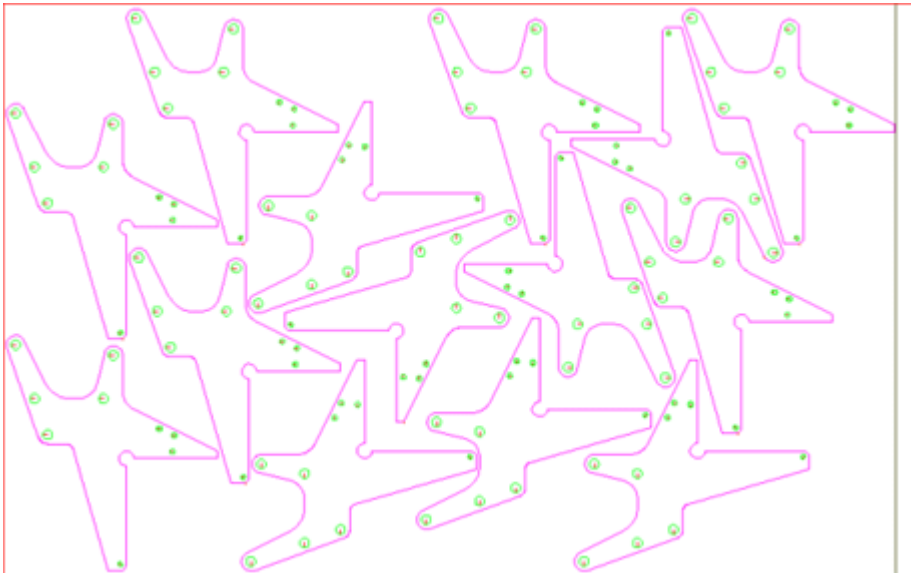
Drawing	Qty / Req	Loops
L11-1016	18 / 18	{D1}2,3,4,5

Plate #00, 60x96, Spacing=3

Total CPT head raises=25 / Pierces=180



The two sheets below were nested with Brand "X"

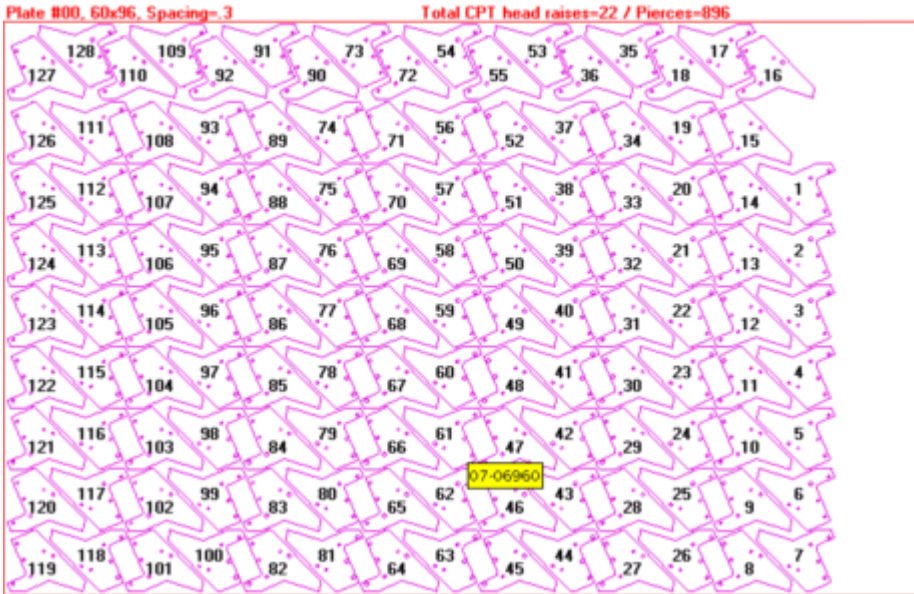


07-06960-1.dxf

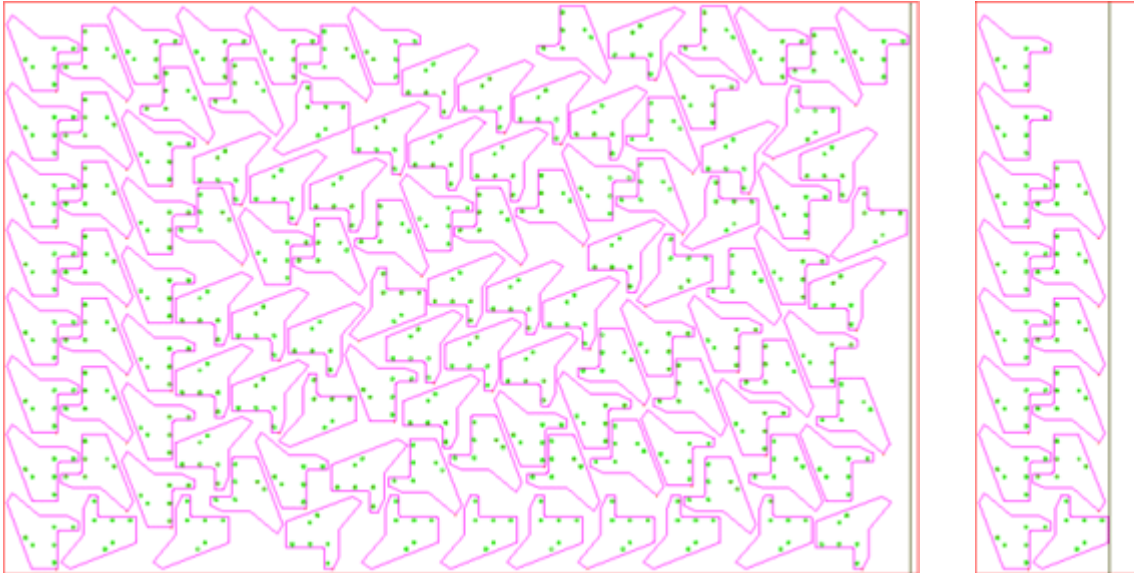
PEP Nested the required 128 parts in less than one sheet.

Brand "X" required 1 and 1/3 sheets to nest the required parts.

Drawing	Qty / Req	Loops
07-06960	128 / 128	{01}2



The two sheets below were nested with Brand "X"



K056-4283-3.dxf

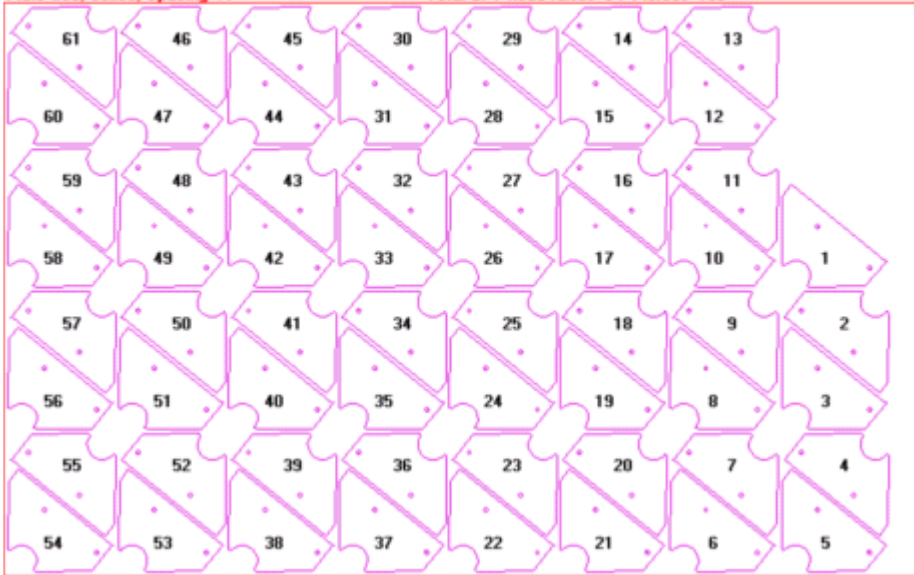
PEP Nested the required 61 parts in less than one sheet.

Brand "X" required 1 and 1/10 sheets to nest the required parts.

Drawing	Qty / Req	Loops
K0564283	61 / 61	(D1)2.3

Plate #00, 60x96, Spacing= 4

Total CPT head raises=0 / Pierces=183



The two sheets below were nested with Brand "X"

