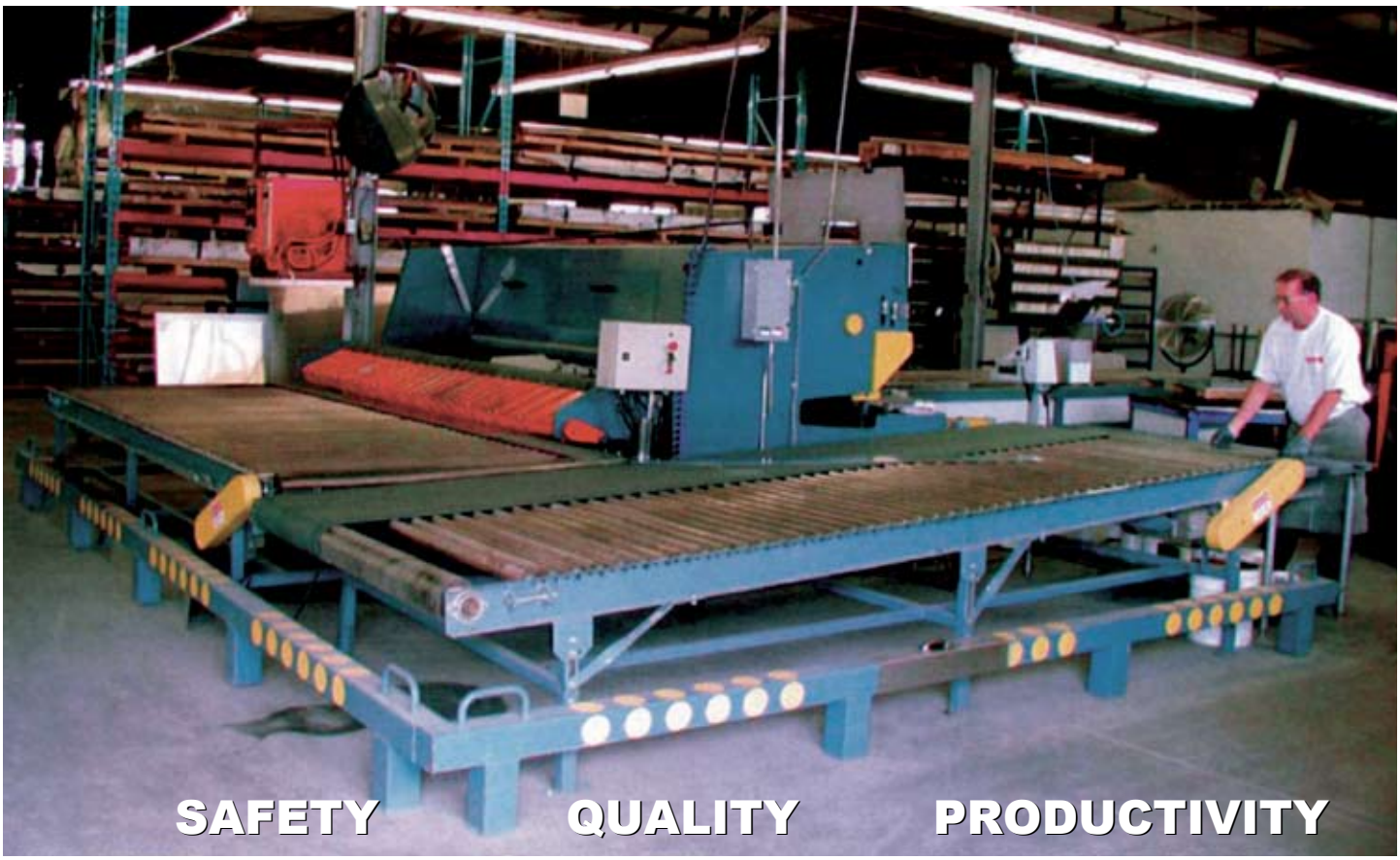
CANRACK
METAL CENTER SYSTEMS

AUTOMATED SHEARING WITH BLANK RETURN



Just-in-time manufacturing pays great dividends through reduced WIP. and provides the ultimate flexibility to quickly meet varying customer demands. However, production machinery must be designed to have minimal set-up time and achieve good productivity with short runs.

Canrack /MCS provides a shear automation system that can be added to any existing shear that allows one operator to produce blanks at a fast rate with close dimensional tolerances.

A CNC shear feeder fitted to the front of the shear is programmable for different blank sizes from the same sheet through a user friendly keypad virtually eliminating set-up time. The feeder moves the sheet through the shear producing blanks to +/- .005" tolerance. This machine paced" activity is consistent for very small or very large runs.

A "blank return system" is installed at the back of the shear to convey pieces out from the shear and through two right angle transfers back to the operator. Blanks that must be re-sheared are conveniently positioned for the operator to reload into the CNC shear feeder.

This system fully compliments just-in-time production as pieces can be efficiently sheared for custom orders requiring one or more pieces of varying sizes. Usually, the shear operator will stack the sheared pieces identified with part numbers or 'move tickets" for transfer to the next operation. The close tolerance shearing can provide blanks suitable for CNC punching which can be later re-sheared to separate into a number of blanks from the master sheet. This greatly increases the productivity and tool life of the punch machine.

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ACTUAL PERFORMANCE STANDARDS FROM SHEAR AUTOMATION SYSTEM USING CNC SHEAR FEEDER

PRODUCTIVITY

Example 1 ▪ Shear 750 pcs., 13.968" x 50.000" from 125 sheets 48" x 120"
Actual run time: 3 hours - 32 min.

Example 2 ▪ Shear 100 pcs., 18.562 x 37.000" from 17 sheets 48" x 120"
Actual run time: 37 min.

Example 3 ▪ Shear 400 pcs., 12.906" x 14.781" from 15 sheets 48" x 120"
Actual run time: 1 hour - 20 min.

Example 4 ▪ Shear 250 pcs., 17.750" x 18.687" from 21 sheets 48" x 120"
Actual run time: 1 hour - 14 min.

The above times are with one operator and includes time for loading and material handling.

TOLERANCES

Example 1 Blank 2.903" x 12.952" - 16 gauge C.R.S.
Cut 32 pieces 2.903" wide from 12.952" blank
Measure each end of piece - 2 measurements per piece

Measurements:

1)	2.903	2.901	2)	2.907	2.904	3)	2.900	2.900	4)	2.898	2.900
5)	2.906	2.903	6)	2.904	2.901	7)	2.905	2.902	8)	2.906	2.905
9)	2.900	2.898	10)	2.905	2.903	11)	2.905	2.903	12)	2.906	2.903
13)	2.906	2.905	14)	2.906	2.904	15)	2.905	2.903	16)	2.904	2.901
17)	2.904	2.901	18)	2.905	2.903	19)	2.905	2.903	20)	2.904	2.902
21)	2.906	2.904	22)	2.906	2.904	23)	2.905	2.902	24)	2.904	2.903
25)	2.904	2.902	26)	2.905	2.902	27)	2.905	2.902	28)	2.903	2.903
29)	2.905	2.905	30)	2.905	2.905	31)	2.903	2.904	32)	2.902	2.903

Example 2 Blank 3.120" x 6.000" - .060 galvanized steel
Cut 36 pieces 3.120" wide from 6" blank
Measure each end of piece - 2 measurements per piece

Measurements:

1)	3.124	3.123	2)	3.120	3.117	3)	3.118	3.119	4)	3.120	3.119
5)	3.117	3.117	6)	3.120	3.122	7)	3.124	3.123	8)	3.125	3.124
9)	3.124	3.122	10)	3.120	3.119	11)	3.119	3.120	12)	3.120	3.121
13)	3.124	3.123	14)	3.121	3.119	15)	3.118	3.117	16)	3.119	3.117
17)	3.118	3.117	18)	3.123	3.123	19)	3.120	3.118	20)	3.119	3.118
21)	3.117	3.116	22)	3.122	3.123	23)	3.119	3.116	24)	3.119	3.118
25)	3.118	3.118	26)	3.118	3.117	27)	3.124	3.120	28)	3.120	3.118
29)	3.120	3.120	30)	3.124	3.123	31)	3.118	3.119	32)	3.124	3.124
33)	3.120	3.122	34)	3.124	3.122	35)	3.120	3.120	36)	3.120	3.120

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