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FINN-POWER

NightTrain FMS®

FLEXIBLE MANUFACTURING SYSTEMS FOR SHEET METAL WORKING


Night

TRAINS DON'T STOP FOR THE NIGHT

- WHY SHOULD YOUR PRODUCTION?

The principle of flexible manufacturing in sheet metal working began to take shape gradually after the introduction of numerical control and hydraulic punching in early 1980's. In 1990, FINN-POWER's FMS concept started the breakthrough of modular constructions and flexible automation which have since then become the fastest growing solution to meet the ever increasing demand for productivity.

FINN-POWER's NIGHT TRAIN FMS® is the latest stage in this development. It is based on FINN-POWER's long experience in the integration of subsequent work stages – punching, shearing or laser cutting and bending. Its options include the integration of FINN-POWER's automatic bending cells. Thus the whole process from raw sheet to ready-bent components can be handled in extensive unmanned operation.

In FINN-POWER's engineering tradition, modularity has always been a major cornerstone. This modular concept makes for cost efficient construction of Flexible Manufacturing Systems with all modules based on wealth of experience and proven by practice. While NIGHT TRAIN FMS® can be custom engineered to meet specific requirements, given layout and so on, its invidual modules are a result of FINN-POWER's pioneering work in hydraulic punching and shearing and flexible automation.

Train FMS® **BY FINN-POWER**

THE TIME IS THERE – WHY NOT USE IT?

FINN-POWER NIGHT TRAIN FMS® was built to be worthy of its name. After preliminary operations it runs for the shift duration totally unattended.

NIGHT TRAIN FMS® automates system control, punching, shearing, as well as material flow within the system through a new type of automatic storage for raw sheet and finished components.

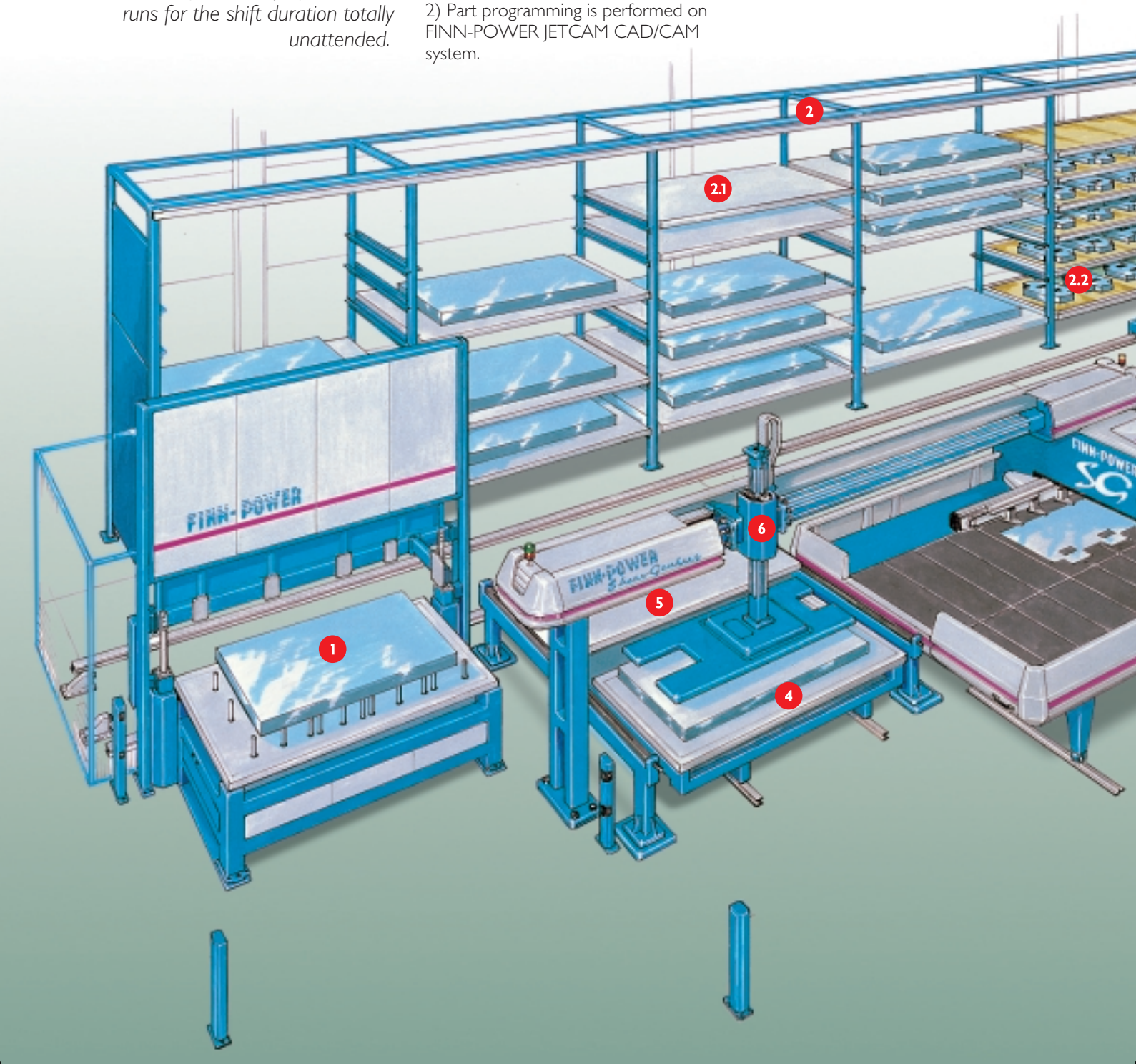
The work process of the basic NIGHT TRAIN FMS® is as follows.

1) The I/O station is used to feed raw sheet bundles, placed on cassettes, into storage. The same station is also used to remove ready components from the system.

2) Part programming is performed on FINN-POWER JETCAM CAD/CAM system.

3) PowerTerm 3 software indicates the NC programs and the cassettes containing the raw material required, and the operator chooses the desired cassette(s) when making the work queue. Similarly, the cassette(s) used for stacking sheared components on is/are chosen.

4) When the work queue is complete, it is stored in the CNC memory and started. NIGHT TRAIN FMS® automatically changes material and cassettes and starts the cell.

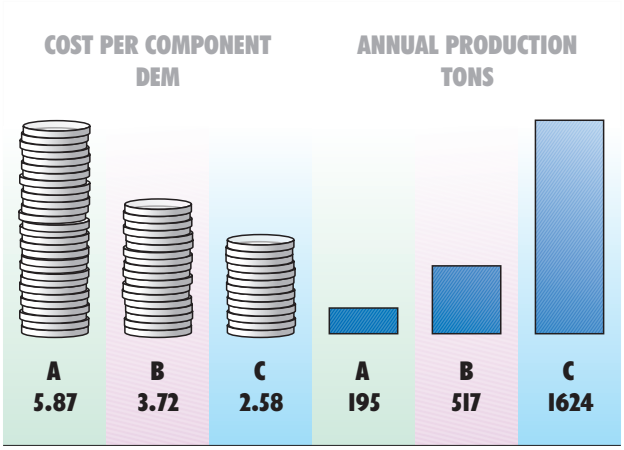


After sheet loading, punching and shearing/laser cutting, sorting and stacking are performed until the full cassette is returned into storage.

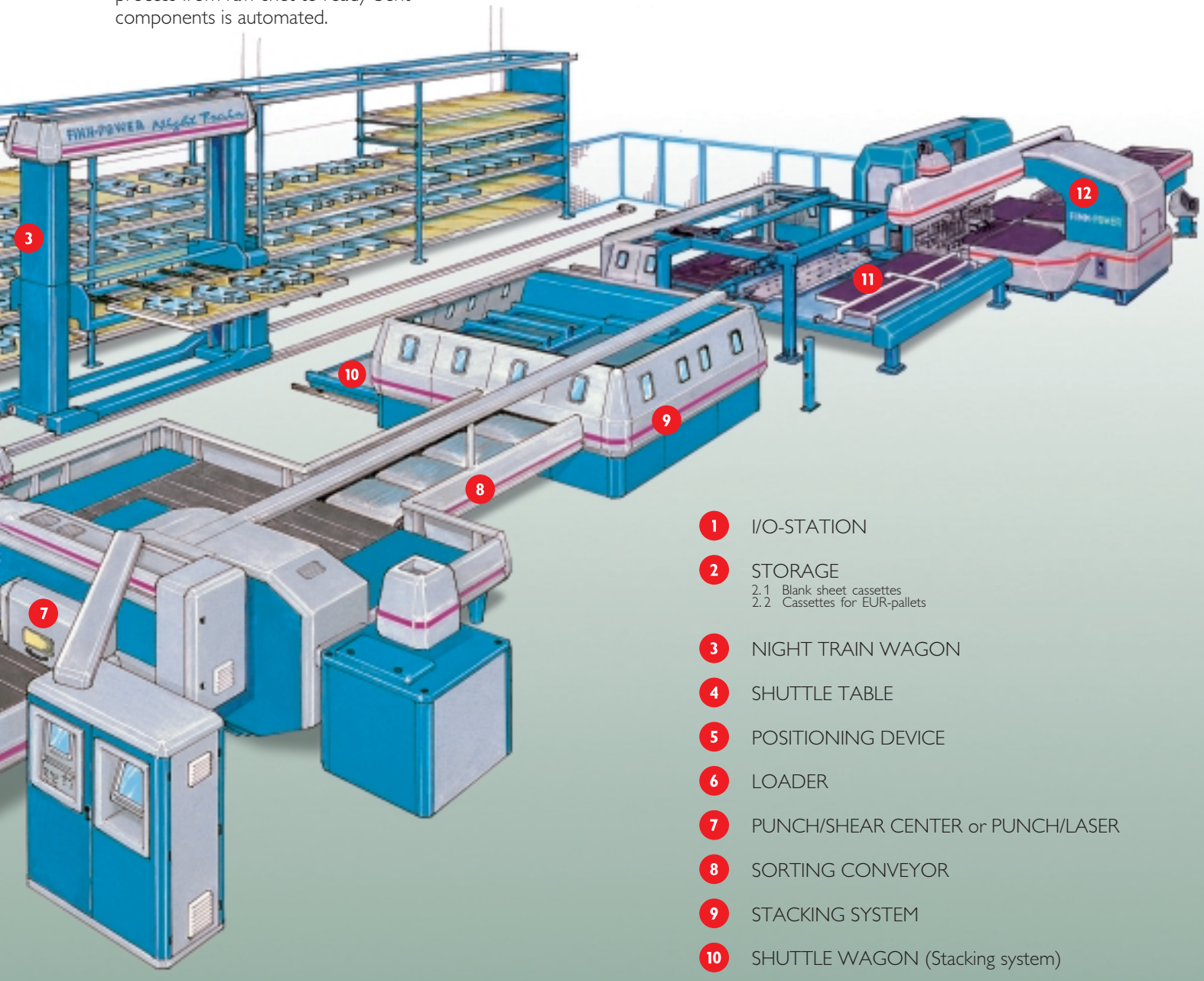
5) After the unmanned operation period – for example, at the beginning of the day shift – finished components are removed via the I/O station

An alternative is to install a loading robot and automatic bending cell as shown, in which case the whole process from raw shet to ready-bent components is automated.

The adjoining comparison, based on actual data, shows what a dramatic improvement in productivity NIGHT TRAIN FMS® offers:



A Punch Press; conventional shear/punch procedure
B Large sheet-size punch press; micro joints
C NIGHT TRAIN FMS



1 I/O-STATION

2 STORAGE
2.1 Blank sheet cassettes
2.2 Cassettes for EUR-pallets

3 NIGHT TRAIN WAGON

4 SHUTTLE TABLE

5 POSITIONING DEVICE

6 LOADER

7 PUNCH/SHEAR CENTER or PUNCH/LASER

8 SORTING CONVEYOR

9 STACKING SYSTEM

10 SHUTTLE WAGON (Stacking system)

11 LOADING ROBOT

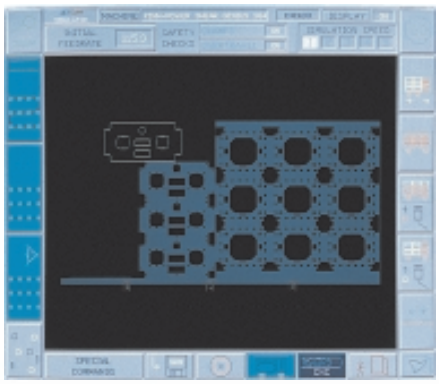
12 AUTOMATIC BENDING CELL

NIGHT TRAIN FMS®

TECHNOLOGICAL EXCELLENCE FOR YOUR PRODUCTIVITY

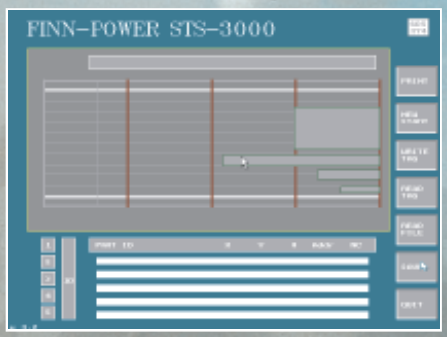
On its introduction in 1994 the NIGHT TRAIN FMS® was immediately discovered to be a real breakthrough in flexible manufacturing technology. It has quickly established itself as one of the very few solutions which leading OEM's and component suppliers consider when revising their production strategy. The systems delivered often have several Shear Genius™ and punch/laser cells.

FINN-POWER JETCAM with Autonesting is one of the most versatile programming systems in the market and a powerful tool for cost-efficient, flexible manufacturing.



Integrated eight angle shearing or laser cutting – or both – can be chosen.

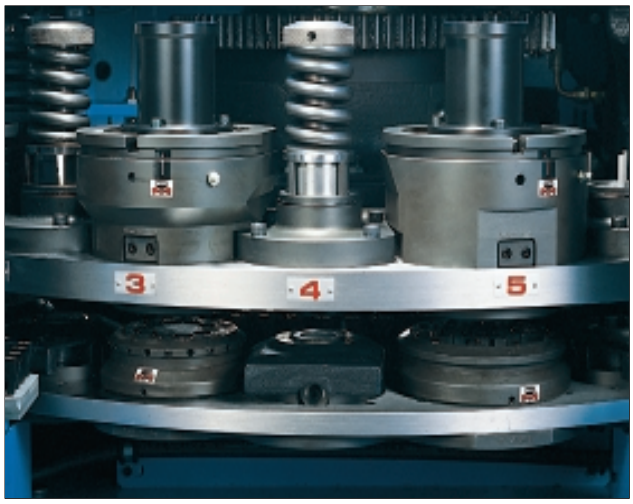
Powerterm terminal controls feature a multitude of useful functions. One of these is stacking management.



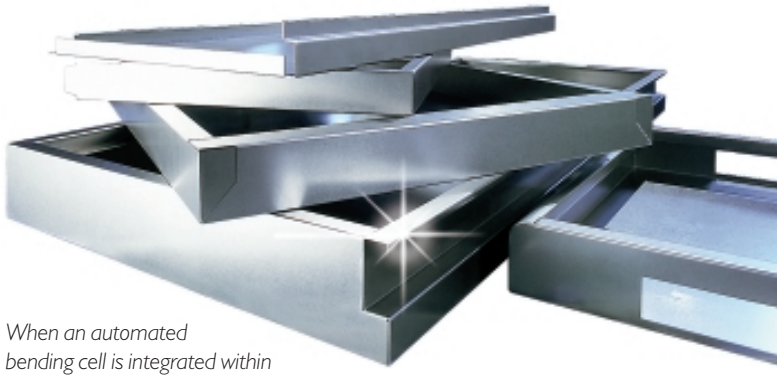
FINN-POWER

- TOTAL SOLUTIONS THROUGH MODULAR TECHNOLOGY

FINN-POWER is the pioneer of hydraulic punching. Outstanding accuracy, fully programmable punching stroke as well as leading axis speeds and hit rates (nibbling hit rate over 1000 hit/min) make NIGHT TRAIN FMS® truly versatile.

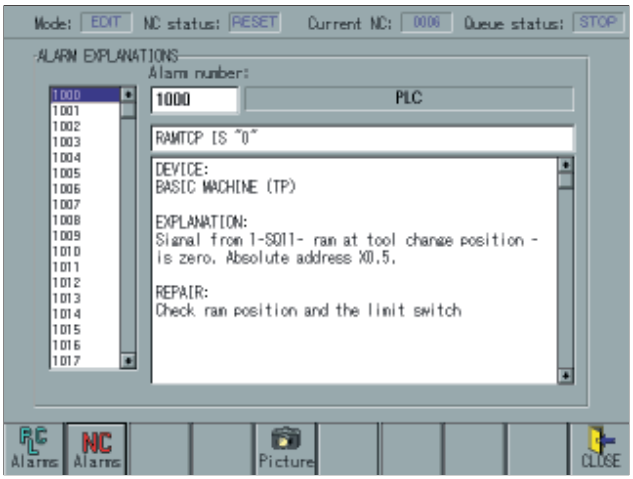


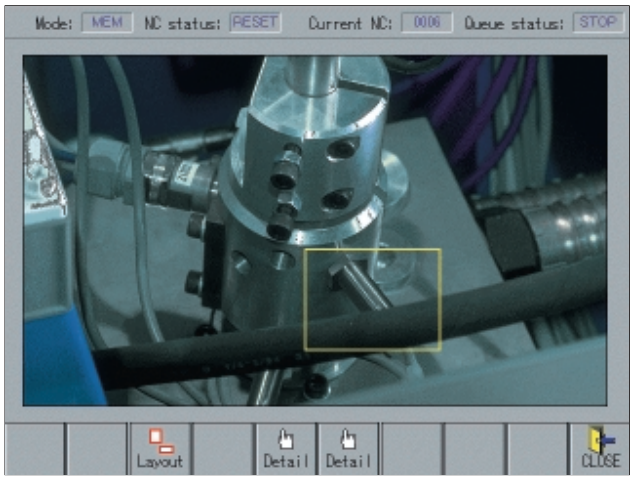
The integration of a right angle shear reduces material consumption and manufacturing time dramatically.



When an automated bending cell is integrated within NIGHT TRAIN FMS®, the entire process turn raw material to ready-bent components becomes automatic.

FINN-POWER's software solutions range from programming systems to terminal controls and beyond. New multimedia-based information systems support learning and skill development as well as production management and preventative maintenance.





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