Minster Tandem Lamination Press Line Gives Westinghouse 10 to 1 Part Productivity Increase.

A Tandem Lamination Press line at Westinghouse Electric Corporation, Medium Motor and Gearing Division, Buffalo, New York, is producing 40% of the integral horsepower motor laminations, as well as producing blanks for notching lines. The line makes **over ten times the number of parts per hour** previously made on one of the notching lines.

The many advantages gained by Westinghouse and satisfaction with the installation of the press line is reflected in the comment of Mr. N. B. "Nick" Castracane, Manager of Manufacturing Planning, who said, "Due to the good experience we've had, we've increased our use of Minster presses. In fact, the majority of the presses in our lamination department are Minster right now."

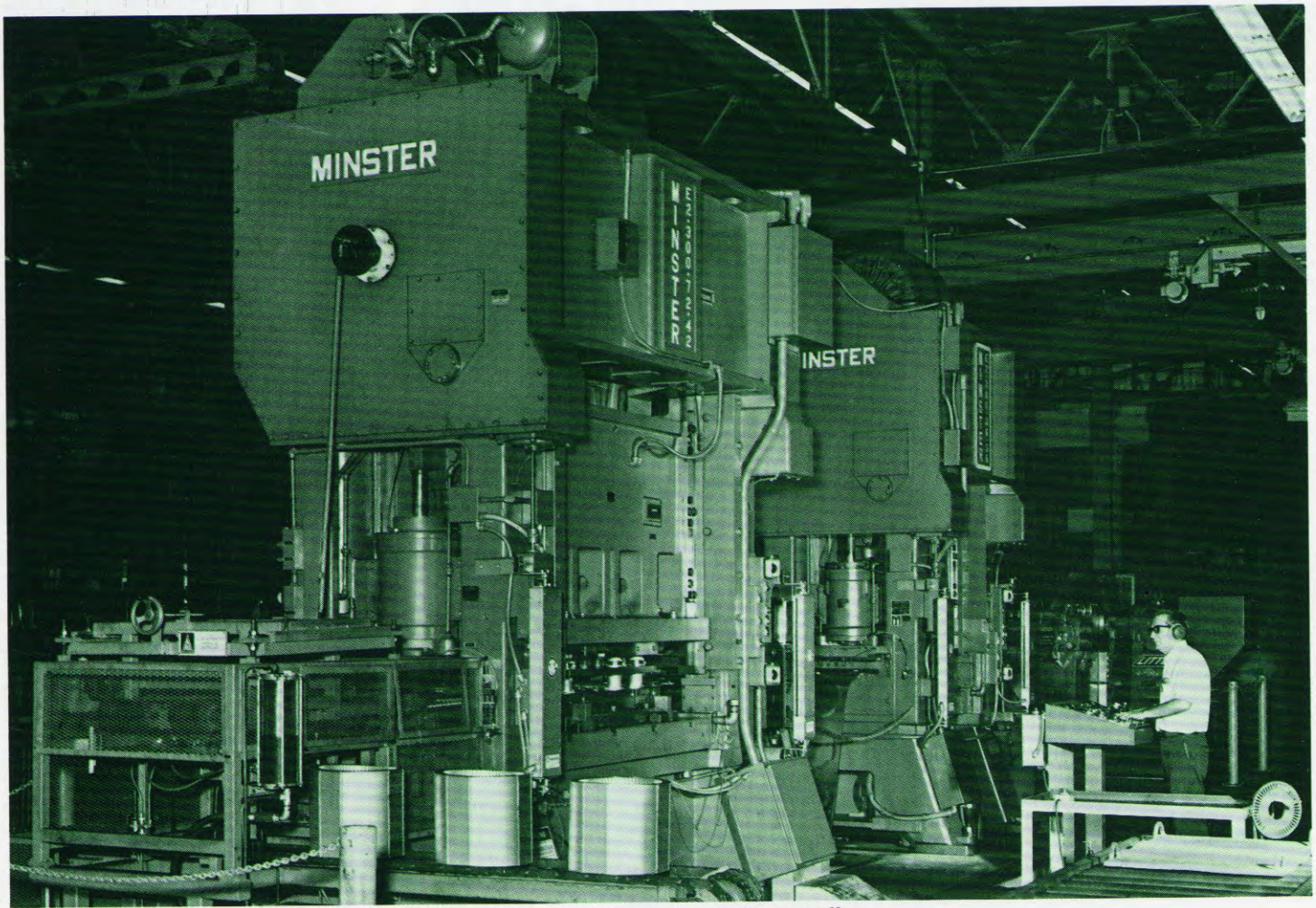
The Minster Tandem Lamination Press line consists of two 300 ton capacity E2 Lamination presses which are single geared, twin drive type. Coil stock is automatically fed into cam feeds arranged to feed 1560"/min. and with capacity to handle material up to 21" wide.

The first press, with a 36" x 36" slide and bed area blanks the pilot holes and stator slots. Scrap drops through and is removed by underfloor conveyor. The strip is then fed into the second press (72" x 42") where the center hole and rotor slots are blanked and the rotor and stator blanked out. Rotors drop through the die into stacker chutes designed to handle rotors from 7½" up to 13⅝" diameter. (Westinghouse is currently running a 12½" dia. rotor with a 19" dia. stator on the tandem line.)

Stators go onto a magnetic conveyor which transfers them to a stacking unit. As a stack is completed, an air-operated holding station moves into position, allowing the completed stack to transfer to a run-out conveyor, while the line continues to run. Stacker guides are adjustable to accommodate stators of varying sizes. Westinghouse is currently producing stators ranging from 13½" to 19" in diameter.

TANDEM vs. SINGLE PRESS HAS SEVERAL ADVANTAGES

- **Flexible scheduling** allows production of sizes as needed. Four different combinations of rotor and stator laminations can be run (Example: one rotor with two different stators).
- **Higher speeds** are possible with two smaller presses rather than one larger one.
- **Smaller dies** are used and are easier to handle — plus the advantage of feeding material through a shorter die.
- **Extended die life** is realized since only the segment which needs it is sharpened. Westinghouse now runs between 2000" and 2500" of laminations between die grinds.



Tandem Press line viewed from stator stack delivery end. Presses are synchronized electronically and controlled from a single operator's podium.

TANDEM PRESSES vs NOTCHING LINES

Even though the Tandem Press line occupies more floor space and requires a larger initial investment than a notching line, these factors are far outweighed by the benefits derived.

- **Higher productivity** is attained with the Minster Tandem Press line which produces 120″ of laminations/hr. as opposed to 8″ — 10″/hr. for the notching lines.
- **Greater Operating Efficiency** results from elimination of separate production and storage of blanks for notching lines.
- **Less noise,** since presses operate at lower decibel levels than notchers.
- **Less wear and tear** because the tandem press line requires 1 stroke per part while notchers need around 50 and 60 strokes for each rotor and stator, respectively.

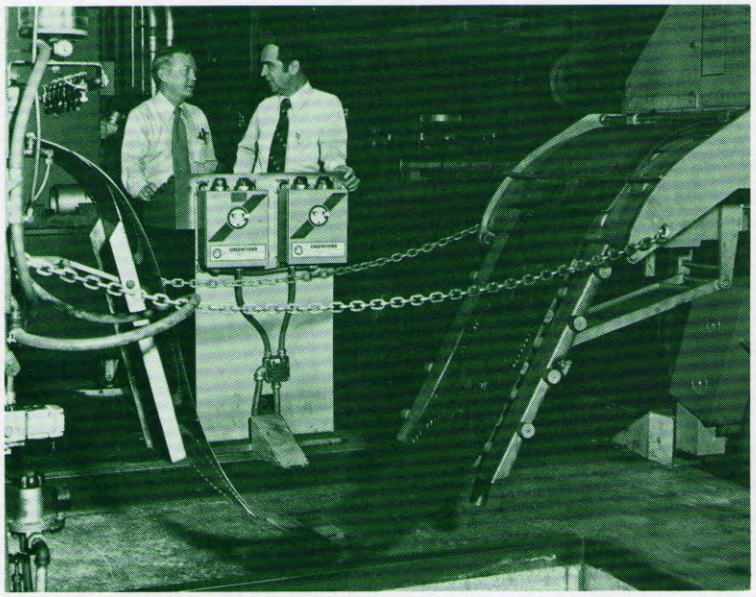
E2 LAMINATION PRESSES DEVELOPED TO MEET DEMANDS OF HIGH SPEED, PRECISION ELECTRICAL LAMINATION PRODUCTION

Minster created a specialized version of its E2 HeviStamper® press specifically for lamination work. The frame is extra heavy to absorb extra shock and resist deflection. Slide guiding is extremely accurate, with very close clearances to eliminate possible horizontal slide movement. The bolster is extra thick. A "double lock-up" slide mechanism is a no clearance arrangement on the adjusting screws which clamps adjustment parts together. Snap-thru shock of blanking is greatly reduced and die life improved.

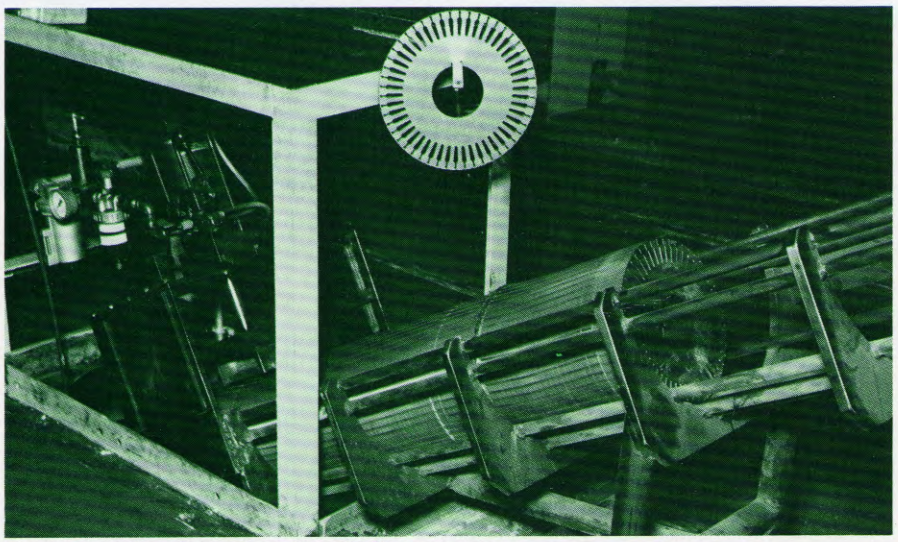
Mr. Castracane summed up his impression of the equipment when he said, "In our experience, we have found Minster presses to be first class, in all respects."

How about after-sale follow-up? We are pleased to quote Mr. Castracane again. "I would have to rate Minster's Service Department among the best of any of our suppliers. We even receive service visits periodically to check condition of the equipment without having to request it."

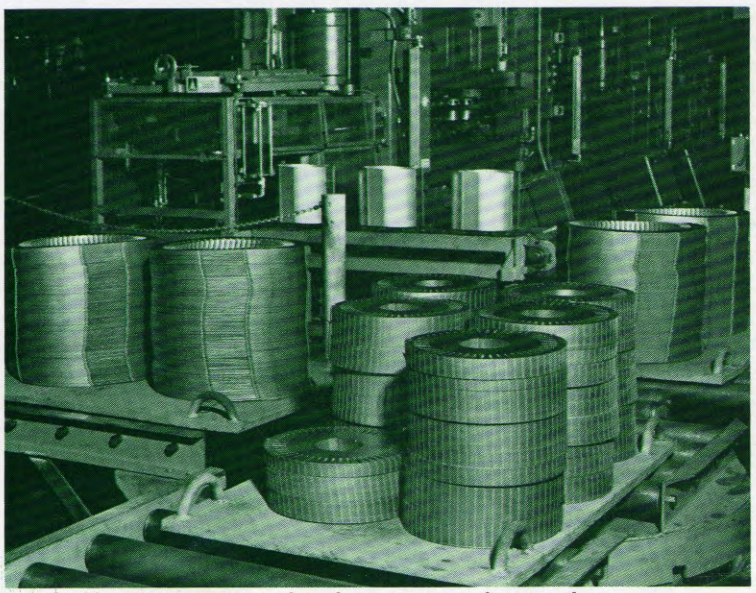
You can depend on the same type of service and quality equipment from Minster, whether you make laminations, heavy tractor parts or delicate electronic components. Try us!



Stock strip with pilot holes and stator slots blanked leaves first press and is fed into second press. In background, at controls, are Mr. N. B. Castracane, Mgr. Mfg. Planning and Mr. C. S. Nunamaker, Mfg. Engr.



Rotors in stacker chute. Rotor is 12½″ diameter.



Finished laminations are produced over 10 times faster in this press line than by previous method.