"The purchase of Minster equipment was

Minster Presses at the Geo. L. Scott & Co. Ltd. produce laminations for motors that power everything from home appliances to express trains.

Back in the year 1890, when the Geo. L. Scott Company opened its doors in England, their total work force of three employees immediately began exerting that extra effort needed to produce a quality product. To this day, that dedication to high quality remains unchanged. Again, looking back to that era — 1896, to be exact — The Minster Machine Company was founded in Minster, Ohio where its employees, too, took pride in producing equipment of the highest quality. It was only a matter of time before both companies grew to recognize the other's desire for excellence.

The Geo. L. Scott & Co. Ltd. is a prominent British manufacturer of precision electrical steel laminations. They produce laminations for use in all types of rotating machines and transformers. In addition to Great Britain, their markets range into most of Western Europe, South America and the United States.

In the lamination industry, the name of Geo. L. Scott & Co. Ltd. has become synonymous with excellence. Of course, one of the reasons for that distinction is Scott's dedication to rigorous "check and double check" quality control. If the product is not within designated tolerances, it will not be shipped. But "on time" delivery is also important, so Scott continues to implement the latest in high-speed lamination equipment and production methods.

Rotor and stator laminations at the Geo. L. Scott Company are used in the manufacture of A.C. and D.C. motors — powering everything from home appliances to express trains.

Today, the firm is a highly integrated manufacturing concern employing over 500 persons — a recognized leader in the lamination industry.

Starting With The Right Equipment

"Precision parts require precision machinery," says Peter Foulkes, Press Line Production Engineer at the Scott Company, "from our high-precision, tungsten carbide tooling to the finest presses available. Minster's have the rigidity we need for the high shock-loads we encounter in high-speed lamination stamping."

It's most important, especially when you are a leader in the industry, to be sure that your production equipment will give you the quality you want at speeds that are profitable. Guessing games should not be a part of any major equipment purchase or production planning. To avoid that contingency, about ten years ago the Geo. L. Scott Co. purchased a Minster P2-150 press and a competitive machine . . . . "to assess the market in high-speed lamination presses," explained Mr. Foulkes. He was quick to add, "The P2 came out on top, without a doubt . . . and it's still extremely reliable today; we're very satisfied with it."

Through the years, other items of Minster equipment have been introed at the Scott facility. Concerning these products, Foulkes goes on to say, "We like Minster's Cam Feed because the unit is simple and it's accurate. And the "S-Loop" coil handling system gives us good material handling control at high speeds while maintaining excellent material flatness."

Minster Can Tailor A Press To Suit Special Requirements

After their evaluation, Geo. L. Scott & Co. chose the Minster Series PM Press for its speed and accuracy. The first unit was ordered in 1976. "We became convinced in early 1976 that it was worth it to go with Minster equipment." says Roy Kerry, Production and Engineering Director. "We felt the purchase of Minster equipment was a worthwhile investment in our future. And experience to date has shown the Minsters to be very reliable; we have had very little trouble."

In order to meet their requirements, the Scott Company needed a press with extra rigidity and extremely accurate feed length; a press that would give them longer die life, better parts quality and greatly reduced maintenance. Of course, the Minster was a good choice because its basic design provides maximum rigidity in all frame members, allowing machine tool precision to be incorporated throughout.

Scott's pressroom now includes a range of Minster lamination presses.

an investment in our future."

Many of the Series PM press standard features were just the thing Scott's production team needed. One of those features is the hydrostatic slide guiding system that provides highest possible accuracy and dependability in a high-speed lamination press. Another is Minster's patented MonitorFlow Lubrication System with its unique indicator panel that also serves as a diagnostic aid if a lube fault is detected.

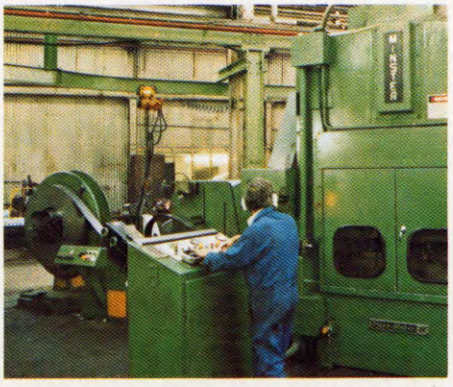
Dynamically balanced 300 ton Minster dominates the press line at Scott's Cheshire facility.

The production of rotor and stator laminations is essentially a blanking operation — and blanking is a type of press operation that can be performed at high speeds. Actual production rates are normally limited only by the speed of the press itself, material feeding accuracy and parts handling capability. Ultimately, if the production of laminations is to be economically feasible, and the producer intends to hold a competitive edge in the marketplace, the laminations will have to be dimensionally accurate, and processed at reasonably high speed. Recent experiences have shown that higher blanking speeds usually improve parts quality and extend die life.

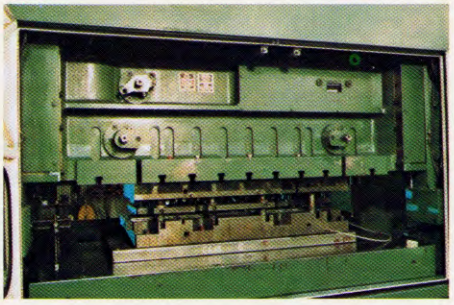
But high-speed blanking involves more than just operating any old press at a high rate of speed. The feeding system must be fast and accurate; tungsten carbide tooling must be precisely guided; and the press should be dynamically balanced to compensate for reciprocating forces that are created by movement of the slide and upper die. Press frame members must be massive enough to accept repeated impact and snap-through shock, both of which become more intense as slide velocity increases. And close-tolerance slide guidance becomes practical only if the press main frame components have been designed to provide thermal stability throughout the production run.

The broad spectrum of press features that are desirable, or contribute beneficially toward the production of precision laminations, goes on and on. But, there is really no need to list them because most have already been listed as **standard** features on the Minster — especially if the press is equipped with Minster's Cam Feed and Coiled Material Handling System.

Through the years, Minster has acquired considerable field experience and knowledge of lamination press applications. That experience was reflected in the design of the Series PM Press and its related material handling system. Perhaps Roy Kerry of Scott stated it best when he said, "Obviously, a great deal of development work went into the PM Series . . . and the whole Minster line, for that matter. Not everyone in the business has made that kind of effort. This Minster design is best suited to our requirements and is truly the most advanced high-speed lamination press available today."



The Minster "S-Loop" Coil Handling System and Cam Feed keeps material flowing through this press.



Hydrostatic gibbing provides precise guidance for the slide.

Matching The Die With A Suitable Press

Supervisors at the Geo. L. Scott & Co. Ltd. regularly demonstrate a high degree of expertise and intelligence in the application of power press equipment. This is particularly evident when it comes to matching the die with a suitable press — to compliment the physical and dynamic characteristics of each. Scott makes it possible to use their presses in this most efficient manner by equipping their pressroom with an array of Minster Presses ranging in size from 60 through 300 tons. Intermediate sizes include 125 ton, 150 ton and 200 ton presses.

Although the major production item at this facility pertains to laminations, in one form or another, it must be noted that there exists quite a difference in the size of these parts. Stator laminations used in a small hand-held power tool, for example, seem almost insignificant when placed beside those used in the huge motor of an express train locomotive. There is also quite a difference in press sizes — dimensionally and tonnage wise — and in the material handling systems used to produce one size lamination as compared to the other. Therefore, in order that the producer may achieve the ultimate in quality, production and profit, the right combination of press, dies, material and material handling systems must be chosen. Finally, the press machine must be operated at the highest practical speed.

The Geo. L. Scott & Co. Ltd. has been operating — and operating very successfully — for many years using safe, proven techniques in power press application. Minster salutes this fine company in this, their 90th year of progress, and extends its warmest wishes for continued success.