"Minster is the best clutch in the industry ... without a doubt."

The Minster CFC Combination Friction Clutch/Brake which serves so well on every Minster press has, for many years, also been applied as OEM equipment by a number of leading machinery builders. One such builder is Atlanta Grotnes Machine Company, Atlanta, Georgia, a major supplier of machinery for the steel and fibre drum industries.

Minster clutches are employed in several different machines built by Atlanta Grotnes. A few years ago, in fact, they were part of a significant design advancement, resulting in the No. 955 Double Seamer (used to form the seams between the body and covers of 55/30 gal. steel drums).

In the previous design of a double seamer, the spindles and cams were synchronized through a common driveshaft. Spindles and cams were driven from the driveshaft through gear trains. The gear ratio of chuck (spindle) to cam was 15 to 1.

In an effort to increase the output of such a machine, two choices were apparent: either speed up the chuck or reduce the gear ratio. A competitor tried to increase output to 720 drums/hr by increasing the spindle rpm's and reduced the gear ratio to 10 to 1. This, however, caused extreme brake wear as the result of having to stop the large drivetrain mass moving at high speed and compromised the forming cycle.

When Atlanta Grotnes was approached by a customer who wanted a 720 drum/hr line and no clutch wear problems, they came up with the idea of using two clutches, one on each spindle. A concern however was ... Could two clutches be kept in syncronization? If the spindles did not engage and disengage simultaneously, unacceptable torque in the drum could result -- or it could "skid" on a spindle.

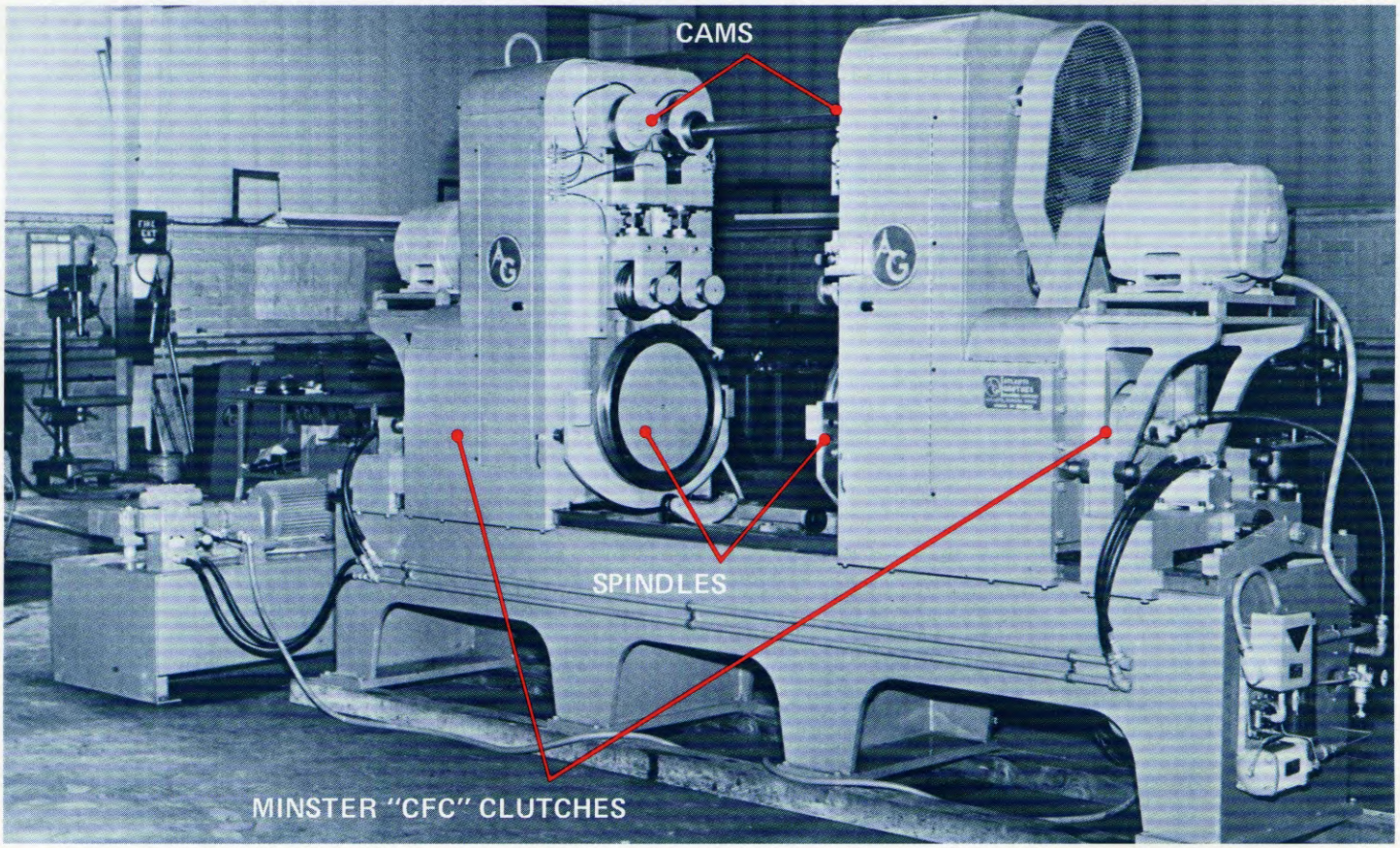
Atlanta Grotnes was assured by Minster engineers that the CFC clutch would, indeed, stay well within the synchronization requirements.

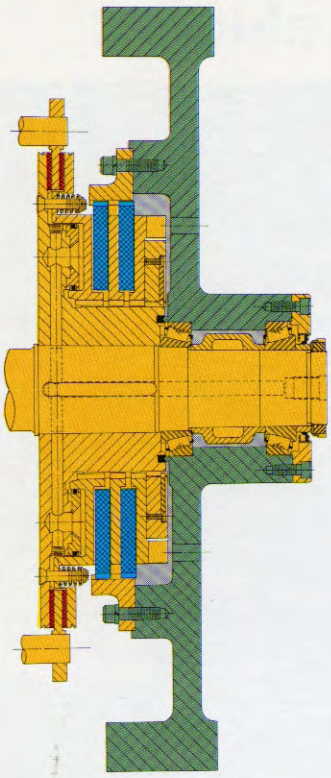
As a result of this development, Atlanta Grotnes now runs spindles on the 955 at 322 rpm, and they're aiming higher. (They can also use a gear ratio of 15 to 1 without having to compromise.) An additional benefit of the higher spindle rpm's is that the drum metal becomes easier to work -- achieving somewhat the effect of metal spinning.

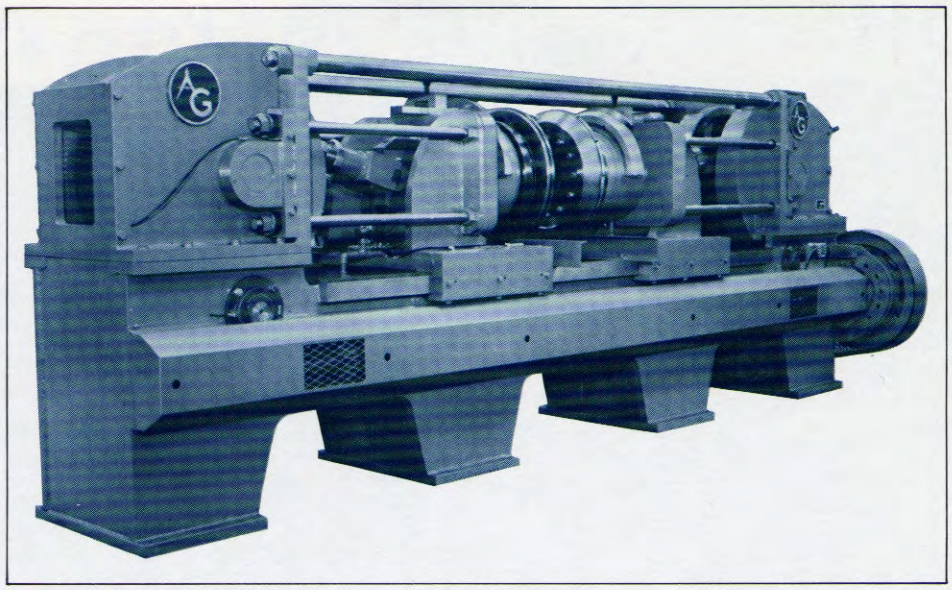
Eugene Grotnes, President
Atlanta Grotnes Machine Company

Eugene Grotnes, President, comments, "For applications in that size range we use nothing but Minster. I don't think we've ever really had a problem with a Minster clutch. Once a machine's installed in the field ... no clutch problems what-so-ever. Minster is the best clutch in the industry ... without a doubt!"

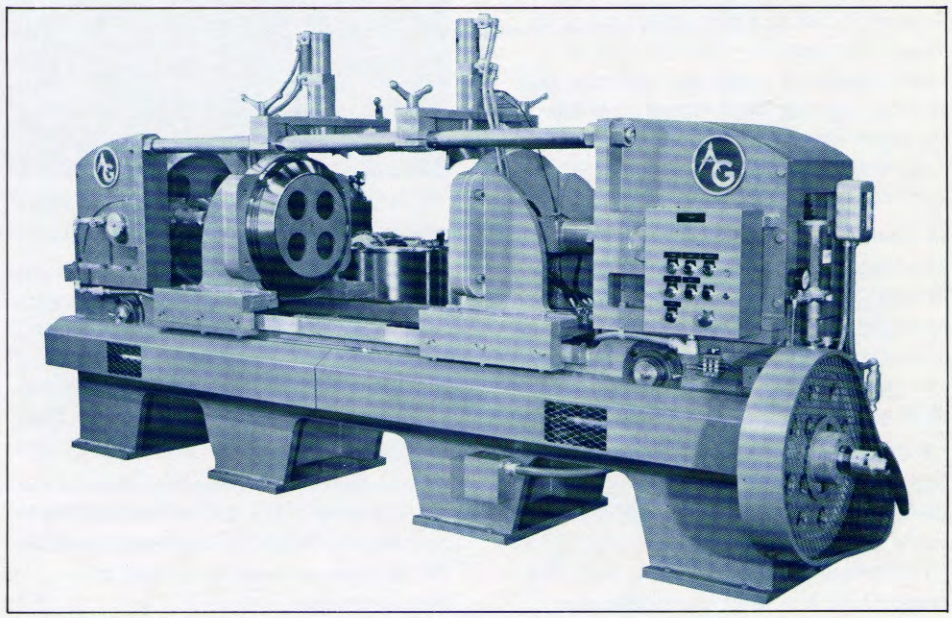
The first No. 955 has been in operation for over three years without needing brake linings replaced and requiring only one adjustment -- a great improvement over previous high speed seamers. (In those 3 plus years, thirteen more of these machines have gone into operation around the world.)







No. 812 Bead Expander (720/hr.)



No. 603 Flanger (720/hr.)

CLUTCH FEATURES

Some of the outstanding features of the Minster CFC Combination Friction Clutch and Brake are:

- clutch and brake in a single synchronized unit
- controlled single or multiple cycling within a wide speed range
- brake automatically and instantly applied as air exhausts
- clutch torque ranges from 100 to 250,000 ft. lbs.

Proven day-in, day-out on Minster presses, this clutch, a product of Minster's 76 years experience in clutch design, is also a winner in many OEM applications.

Atlanta Grotnes Machine Company

For four generations a Grotnes has been developing special machinery. In 1901 Charles Grotnes started the original company and he and his son, Carl, pioneered the development of some of the first equipment used for making wheel rims and containers. The original company was sold in 1949 but in 1956, Carl Grotnes' two sons started the present Atlanta Grotnes Machine Company. Today, it is a corporation independently owned and operated by Eugene Grotnes and his son Carl, who joined the firm in 1975.

The firm works primarily in the steel and fibre drum industries, but also has developed equipment for producers of auto and truck rims, clothes washer and dryer drums, transformer, butane and hot water tanks. Machines built by Atlanta Grotnes are operating literally around the world.