



Four Tire & Rubber Manufacturing Challenges Solved

Superior Results for Global Tire Manufacturer

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PROCTOR
STANLEY M. PROCTOR COMPANY

Four innovative engineered hydraulic and electrical solutions delivered by the Stanley M. Proctor Company in recent years solved a major tire company's manufacturing challenges, improved accuracy in critical applications, and avoided the need for costly machine replacements.

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The Customer

A global tire manufacturer that has been a customer of the Stanley M. Proctor Company since 1961 manufactures everything from tractor and motorcycle tires to high-performance sport tires. The Stanley M. Proctor Company supplies this company with standard industrial components, precision pneumatic controls, and engineered hydraulic systems.

The Challenges

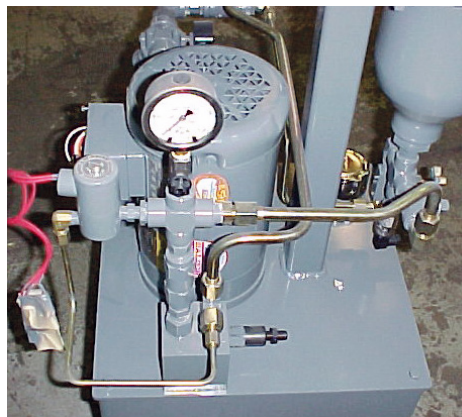
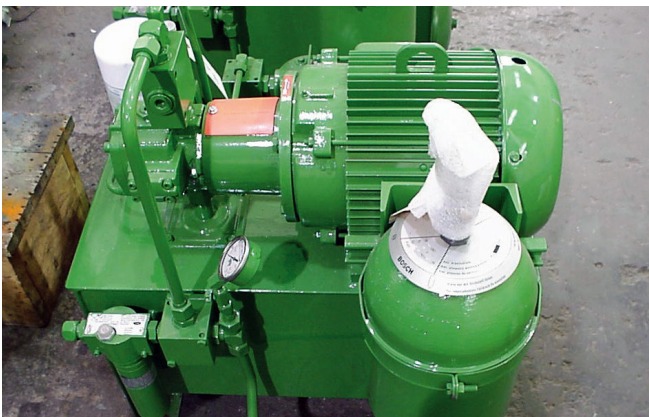
The Stanley M. Proctor Company's half-century of experience in the tire and rubber industry, coupled with our longstanding relationship with this tire manufacturer, made us a natural fit to tackle the company's manufacturing challenges. We bring our expertise in hydraulic and pneumatic integration with

electronic controls to bear on almost every new project that comes up at this company.

Tractor Tire Retrofit

The challenge: Retrofit a tractor tire building machine to more accurately position and control the velocity of two opposing cylinders during ply-down and bladder turn-up operations.

The solution: Develop an integrated system involving hydraulics and electronics. Specifically, using modified electro-hydraulic proportional control valves. The inner loop of the valve is closed with an LVDT (linear variable differential transformer), while the outer loop is closed with a control package supplied by the company. These modifications allowed for accurate cylinder positioning and velocity control.



Guide System Improvement

The challenge: Work with the customer to improve the accuracy of a fabric edge-guide system.

The solution: Upgrade from a digital on/off system to an analog control package. The new system integrated a small hydraulic power unit and proportional directional control valve with a closed inner-loop LVDT and a closed outer-loop photo eye (photoelectric sensor) and servo controller. This upgrade improved wind-up accuracy so much that the company has since updated nearly ten other systems.

Control System Conversion

The challenge: Update an outdated on/off crowned roll bending system that controls the pressure on two opposing cylinders as fabric thickness downstream is monitored electronically. This update required a completely new hydraulic and electrical control package.

The solution: Install an ultra-efficient controller that incorporates proportional pressure controls. The pressure controls linearly change pressures relative to a 0-10 volt input, which eliminates the need for mechanical linkage and simplified the entire operation.

Closing the Loop

The challenge: Modify machine designs utilizing Fairchild Pressure Regulators to allow for linear control of output pressure.

The solution: Integrate Fairchild I/P and E/P Pressure Transducers (models T5700 and T5200, respectively) for prototype applications in machine design, including TUOs (Tire Uniformity Optimizers).

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Let the Stanley M. Proctor Company solve your manufacturing challenges. Contact us today to schedule your free, no-obligation Engineered Solutions Consultation.

About the Stanley M. Proctor Company

Since our founding in 1955, the Stanley M. Proctor Company has specialized in engineered manufacturing solutions and the distribution of pneumatic, hydraulic, and electric plant automation products, all backed by outstanding expert support. Our customers range from small businesses to Fortune 100 companies.



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