

Newsletter

Newsletter



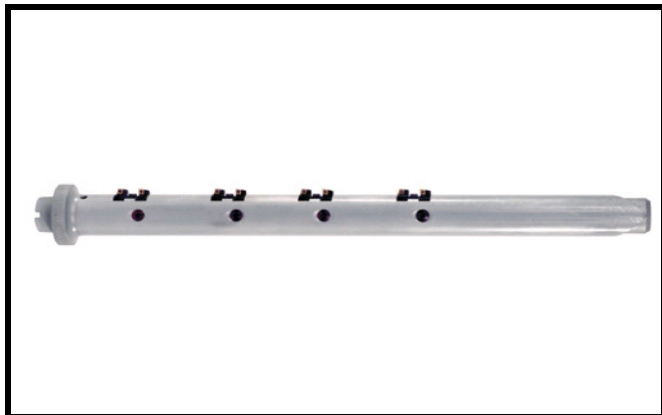
Master Tool

Innovators of Special Design & Build Tooling Systems

210 River Street, Grand River, Ohio 44045

Phone (440) 354-0600 FAX (440) 354-6372

Email: master@mtctools.com



Master Tool was recently presented with an opportunity to replace a competitor's Crank Line Boring Bar at General Motors in Romulus, Michigan.

The dedicated Ingersoll transfer line to produce General Motor's GEN 3 Engine Block was delivered with the competitor's Line Bars on the crank boring station. The GEN 3 engine block is a cast iron block with a powdered metal girdle requiring bi-metal machining of the crank bore.

The line went through run-off at Ingersoll with reasonable success on the crank bore, however, tool life never became an issue until installation at the Romulus plant. Once the installation was up and running, the fact that the best tool life achieved was only 80 parts per cutting edge became a major issue. The competitor was permitted to try various grades of carbide and insert geometries with limited success.

Master Tool offered to build a test bar for the finish station only, using our proven double cartridge technology. The double cartridge design permits semi-finishing and finishing on the same feed stroke.

This design also helps to eliminate any transfer error of the machine - ensuring that the finish insert machines the exact same amount of material on all sides of the crank bore.

The end result was an increase of tool life from 80 parts per corner to over 280 parts per corner. This 250% increase in tool life dramatically increased the line's uptime due to less insert changing. Part quality was maintained (actually improved) and the cost per piece was noticeably reduced.

This result was achieved by replacing only the finish competitors crank bar. The Ingersoll Line was a traditional three (3) station crank bore operation (roughing, semi-finishing and finishing). The Master Tool double cartridge design actually eliminates the need for three (3) station boring. If the double cartridge design is used in the roughing station, only two (2) stations are necessary to produce perfect crank bores. This is a potential \$500,000 savings on a block line in addition to the savings on the cost of the tooling and back-up tooling.

If part quality and tool life are important to you on your line boring operations, contact Master Tool for an engineered solution.