CASE STUDY. GEN3SYS®

PROJECT PROFILE: **Nodular Iron Agricultural Equipment**

An end-user was in the process of moving its hitch lift production to recently installed Mori-Seki horizontal machining centers from an older machine.

LOWER COST PER HOLE

+ CHALLENGE:

Previously the customer was using a standard Kennametal KSEM drill in an extended holder, running at the following parameters: 1348 RPM at 0.015 IPR, (0,38 mm/rev) which resulted in 20.21 IPM (538 mm/min). The tool drilled a 0.8504" (21,6 mm) diameter through hole to a depth of 2.64 inches (67,05 mm). The tool had a cycle time of 7.83 seconds and a tool life of 800 holes.

+ OUR SOLUTION:

Allied recommended the GEN3SYS® product line. Allied developed a special body to hold insert item 5C220H-21.6 and also added two triangle inserts to produce the 25.9mm x 90° diameter chamfer at the top of the hole. This design offered more support to the body of the drill and permitted the addition of a chamfer feature which eliminated another secondary operation on the part.
The tooling ran at a speed 1460 RPM at a feed of 0.020 IPR (0,51 mm/rev). This resulted in 29.20 IPM (741,68 mm/min) drill rate. The tool life remained the same at 800 holes, but the cycle time of 5.42 seconds was less that of the KSEM tool. The Allied tool was getting the job done 2.41 seconds per hole faster than the competitive tool plus was completing the chamfer at the top of the bore thus eliminating another operation in the process.

+ PROJECT DATA:

The multi-step GEN3SYS® offered combined operations, which helped to lessen the machine run time by reducing cycle time thereby decreasing the cost per hole from $0.25 to $0.19, resulting in a savings of 23.1%.