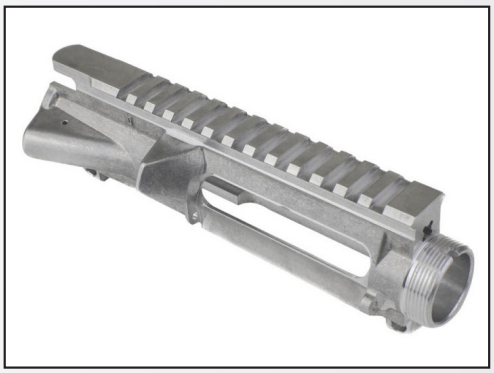
AR Upper Receiver: GEN3SYS® XT PRO

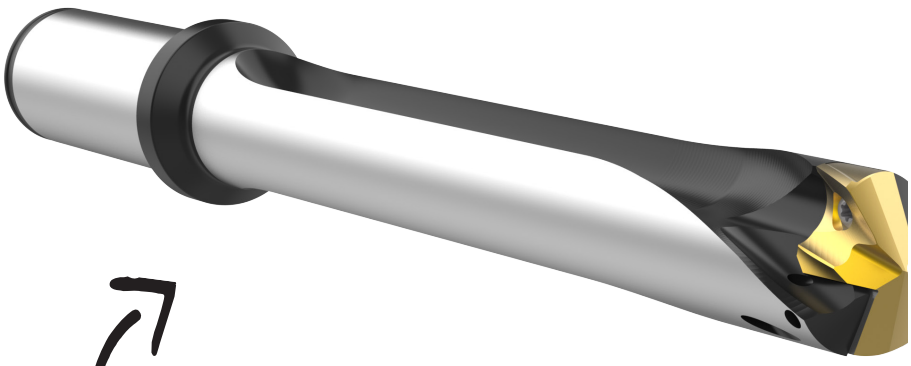
The customer is manufacturing AR upper receiver castings for the firearms industry. The parts are made from cast aluminum. Previously, the customer was using a solid carbide twist drill to perform the operation. The twist drill achieved a tool life of 2700 linear inches *(68.58 M)*. The customer needs to increase tool life without sacrificing hole quality.

Allied's **GEN3SYS® XT Pro** drilling system with non-ferrous geometry insert achieved 9000 linear inches *(228.6 M)* of tool life, a 233% increase over the twist drill. The parameters were kept the same to create a level test, which resulted in the same cycle time for both tools, but the XT Pro offered 3x the tool life.

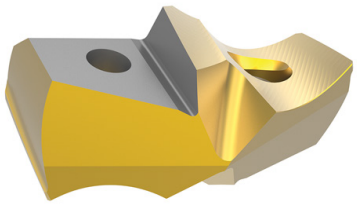


Product: GEN3SYS® XT Pro
Objectives: Improve tool life
Industry: Firearms
Part: AR upper receiver
Material: Cast aluminum
Hole Ø: 0.998" *(25.349 mm)*
Hole Depth: 4.500" *(114.3 mm)*

Measure	Competitor	GEN3SYS® XT Pro
RPM	5000	5000
Speed	1300 SFM *(396.24 M/min)*	1300 SFM *(396.24 M/min)*
Feed Rate	110 IPM *(2794 mm/min)*	110 IPM *(2794 mm/min)*
Cycle Time	2.46 sec	2.45 sec
Tool Life	2700 inches *(68.58 M)*	9000 inches *(228.6 M)*
GEN3SYS XT Pro offered 52% cost per hole savings over competitor tooling.		



- GEN3SYS® XT Pro insert
  (N) Non-ferrous geometry
  Item No. XTN24-25.3
- GEN3SYS® XT Pro insert holder
  Item No. HXT1024S-100F



233% tool life increase

The GEN3SYS® XT Pro provided:

- ✓ Increased tool life
- ✓ Decreased cycle time
- ✓ Decreased cost per hole