

## Underwater Explosive Casings: EcoCut

A specialty screw machine shop is manufacturing underwater explosive casings made from aluminum bar stock for the U.S. Navy. These products must meet very strict tolerances. They use an EMCO multispindle lathe (four spindles per machine) with a water soluble coolant through the tool.

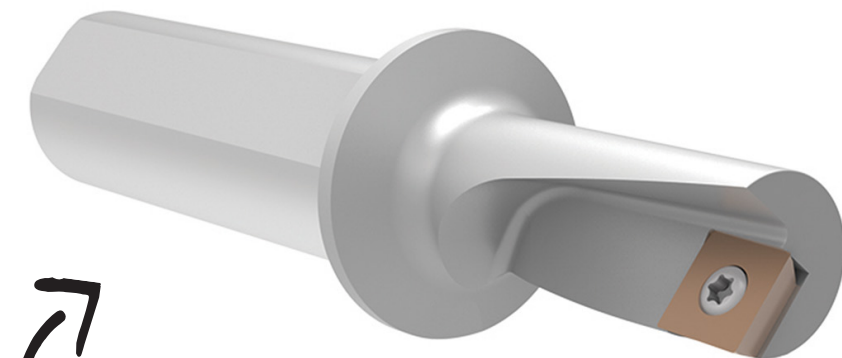
The customer needed to reduce the cycle time, reduce the amount of tooling, and reduce costs.

The **EcoCut** successfully decreased cycle time while eliminating three tools from the process.



		Measure	Previous Tooling	EcoCut
<b>Product:</b>	EcoCut		<b>4 Tool Process</b> <ul style="list-style-type: none"> <li>• Drill</li> <li>• Small boring bar 0.375" (9.525 mm)</li> <li>• Large boring bar 0.750" (19.050 mm)</li> <li>• Facing tool</li> </ul>	<ul style="list-style-type: none"> <li>• 600 SFM (182.880 M/min)</li> <li>• 1024 RPM</li> <li>• Drill 1.126 IPM (28.60 mm/rev)</li> <li>• Counter bore 2.048 IPM (52.019 mm/rev)</li> <li>• Finish bore 5.120 IPM (130.048 mm/rev)</li> </ul>
<b>Objective:</b>	Decrease cycle time			
<b>Industry:</b>	Firearms			
<b>Part:</b>	Underwater explosive casings			
<b>Material:</b>	Aluminum bar stock			
		Cycle Time	2 min	1 min 38 sec

▶ EcoCut  
 Insert: XCET 10T308FN-27P grade H216-T  
 Holder: EC 20R-1.5D 10E



18% cycle time decrease

The EcoCut provided:

- ✓ Increased tool life
- ✓ Decreased cycle time