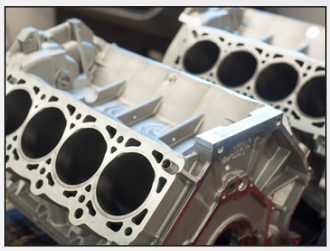
If you need to hold a tight tolerance, we have the solution.



When an application requires you to hold a tight tolerance, it quickly eliminates many tooling options because those options aren't capable of holding the strict tolerance. Our customer was using a solid carbide drill to machine cylinder heads for the automotive industry. The cylinder blocks were made from A356 aluminum.

When the end user raised concerns over the hole tolerance created by our customer's previous tooling, our customer changed the required tolerance from ±.0005" *(±.013mm)* to ±.0003" *(±.009mm)*. However, the previous tooling couldn't achieve the new tolerance requirements.

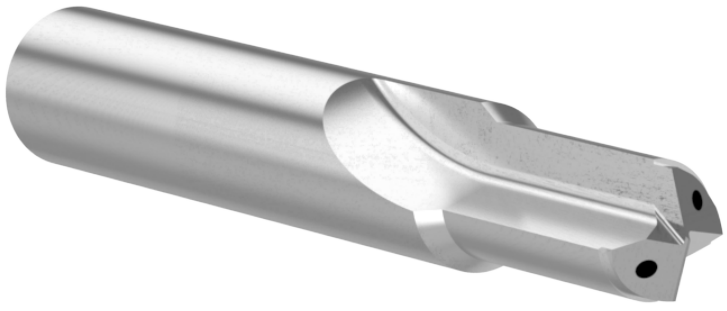
The customer tested the **Superion Solid Carbide Step Burnishing Drill** in this application. The Superion drill did exactly what the customer needed and successfully held the new tolerance of ±.0003" *(±.009mm)*. It also held the new tolerance with a 1.66 CPK, which was higher than the previous tool's CPK even at the initial ±.0005" *(±.013mm)* tolerance.

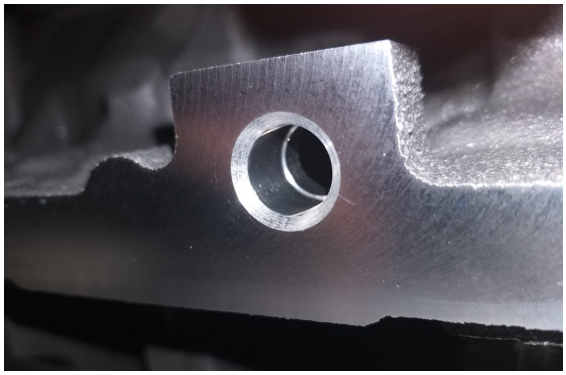
Don't tolerate tolerance issues. ***Call us to help you find the right tool for the job.***

Product: Superion Step Burnishing Drill
Objectives: Achieve required tolerance
Industry: Automotive
Part: Cylinder head
Material: A356 aluminum
Hole Ø: 0.579" *(14.70mm)*
Hole Depth: 1.181" *(30.00mm)*

Measure	Superion Step Burnishing Drill
RPM	3,490
Speed	528 SFM *(160.1 M/min)*
Feed	0.0115 IPR *(0.29 mm/rev)*
Penetration Rate	43 IPM *(1,100 mm/min)*
Cycle Time	4 sec
Tool Life	3,000 parts
Tolerance	±0.0003" *(±0.009mm)*

▸ Superion
Superion Step Burnishing Drill





The Step Burnishing Drill provided:

- ✓ Required tolerance
- ✓ Increased CPK