

Internal cross hole deburring

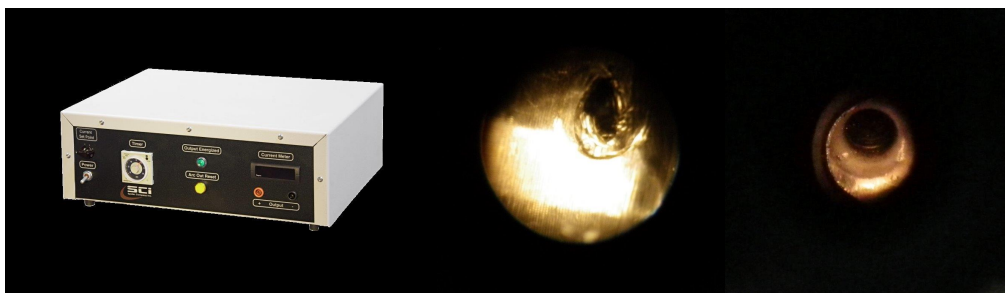
We have three full time deburring operators that are hand deburring aluminum aerospace machined parts with 3 and 4" deep cross-holes. This is very difficult and time consuming work. Is there a reasonable priced deburring system that can help us?

Internal burr removal in the aerospace industry is critical. Aerospace contractors require procedures for deburring and inspection. .

Procedures include developing levels of part deburring difficulties and matching them with the appropriately trained operators. For example, if you've developed level 1 through 7 parts with 7 being the most difficult; a level 7 part must be deburred with a level 7 trained operator. A level 5 operator cannot deburr a level 7 part.

When a part has multiple holes requiring deburring, the holes are deburred in a prescribed sequence. There is a deburring procedure for each hole.

An inexpensive internal deburring system that would help you significantly is electro chemical deburring (ECD). These systems flow a low DC current with a 5% salt solution to the burr and dissolve it. It is very efficient and precise. Systems can cost less than \$20,000 for a hand held system that runs one part at a time or a fixture process that runs multiple parts at a time. These systems will shorten deburring times significantly with more accurate results than chasing a burr back and forth by hand to remove it.



ECD Machine

ID Burr Before

Burr After

Other systems that can be considered for internal hole deburring are Thermal explosion deburring or systems that forces an abrasive flow through the area. Both systems work, but are more of a financial commitment than ECD deburring.

An ECD system is the most competitive solution to metal internal cross-hole deburring. ECD works on most metals, however, does not work on plastic or composite materials.

Plastic and composite internal cross holes can be removed with small pressure blasting systems with fine nozzles that are designed to reach into the areas. Dry ice blasting also works well by freezing the burrs and then forcing them out.