

# DIGGING DEEP

By Neil Ryall

GUNDRILLING AND BTA DEEP HOLE DRILLING – SPECIALISATION AND PRODUCTION ARE NOW TURNKEY AS A RESULT OF STRATEGIC ALLIANCE.



Twin spindle CNC Knee Gundrill Center .005mm positioning accuracy, 24,000 RPM spindles

In the 60 plus years since the development of gundrilling as a production process for the manufacture of gun barrels, the principal has been adopted by numerous manufacturing sectors. The ease by which holes of perhaps 200 times diameter in depth can be achieved in a single pass, merely touches upon the potential of this engineering specialisation.

Today, gundrilling is present throughout the aerospace, automotive, defence, mould, tooling and medical engineering industries and many more. Increasingly, gundrilling is recognised as offering not only deep, but also extremely high-precision drilling in terms of diameter, straightness, roundness and surface finish.

There remains, however, limited understanding of what is essentially, an unusual but straightforward drilling method. The number of deep hole drilling machine manufacturers worldwide can almost be counted on two hands. Still less are those who dedicate themselves to advancing this technology and consistently meeting the highest possible standards critical for ensured and reliable success.

Kays Engineering Incorporated, Missouri, USA, is now without doubt, the leading manufacturer in the world of gundrilling and BTA drilling machines. Its Eldorado and DeHOFF ranges offer simple, single spindle machines to self-operating, multi-spindle machines with full automation.

## CUSTOMERS DEMAND TURNKEY DEEP HOLE DRILLING

Over the last 10 years or more, manufacturers of milling and turning centres have become used to customer demands for fully engineered turnkey solutions, whereas, gundrilling machine producers have always been relied upon to provide specialist expertise. However, this is no longer sufficient in itself. The ‘general purpose’ single or twin spindle gundrilling machine suitable for a broad range of part diameters and lengths still has an established place but, much like the way that the CNC turning centre has largely replaced the engine lathe, highly versatile programmable gundrilling centres are today’s customers’ expectation.

Moreover, customers expect a solution package that not only ensures high output and quality with minimum supervision, but also provides the flexibility to meet the rapidly changing demands upon them. These may include gun barrels, transmission shafts, camshafts, bone screws, aircraft landing gear, cooling ways and many other suitable applications.

The only way for world leaders in deep drilling machine technology – such as that from Kays Engineering – to ensure that they are in a position to keep ahead of the ever more stringent demands is to remain at the forefront of technical development and innovation. Kays Engineering utilises the latest in PLC control and programming, servo systems, part handling and diagnostics.

**THE VALUE OF STRATEGIC ALLIANCES**

For complete success of turnkey solutions, it is insufficient to ‘go it alone’, however. Kays Engineering Incorporated recognises the true value of collaboration. The company has established strong strategic alliances with its suppliers of tooling, machine parts and accessories, machine fluids and cutting coolants, in other words, Drillmasters-Eldorado Tool Inc., American Heller Corporation, Castrol Industrial North America Inc. Such alliances guarantee not only the performance expected by its international customers but ensure the future joint development of deep hole technology for all world markets. ■

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DeHoff Multi-Spindle Automated Gundrilling Center



**The World Leaders in Deep Hole Drilling Solutions**

- Gundrilling BTA
- Multi-Spindle Production Centers
- High Pressure Coolant Systems



Eldorado 3 Axis Manual Gundrill



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