



Cutting NEWS

HY-PRO® CARB 3D & 5D

Proven Technology for the Holemaking Industry

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Ace in the Hole

Tracey Hloros, District Manager



“Ace in the hole” is a metaphor for any hidden advantage or resource kept in reserve until revealed. What is your idea of an ace in the hole? Is it a secret family recipe passed down from your grandmother? Or perhaps your ace is a new invention that

will make you wealthier than Bill Gates? Whatever your ace may be, having one will certainly ease some form of frustrations.

Frustrations are prevalent in holmaking. Holmaking may be simple. Nevertheless, there are many obstacles that are not foreseen until the holmaking process begins. Substrates, geometries, technology and the process of drilling are important factors that should not be overlooked in holmaking.

With the right choices, money can be saved and hole quality can be improved.

“With the right choices, money can be saved and hole quality can be improved.”

Drill substrate and geometries are major elements that influence the quality of the holmaking process. Speeds and feeds play an important role in terms of controlling tool wear. However, problems often occur when the drill substrates and geometries are mismatched with the work material,

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which could result in instant drill wear on the chisel edge or chipping on the cutting edge. Case in point, carbide is not always the best choice for all situations. I have seen a powdered metal substrate succeed over a carbide drill in Hastelloy many times; or a powdered metal drill demonstrating superior performance over carbide when the machine set up is not very rigid. Also, a HSS substrate may be better than carbide for burring problems on the exit side of a hole in softer materials.

Geometries play a crucial role as well. A bigger web diameter with a slower helix works wonders for drilling hardened material up to 70 HRC. A faster helix will enable smooth chip evacuation of softer materials. In addition, a triple angle drill works extremely well with CFRP. The use of the TAD drill helps eliminate delamination on the inlet and outlet of the hole in CFRP. When in doubt, always double check whether or not the drill substrate and geometries are appropriate for your work material.

In addition to drill substrate and geometries, process and process time are two other procedures that can have much room for improvement in holemaking. Embracing new tool technology is the best solution for improving process and process time. For instance, it is now possible to drill

holes up to 20xD without pecking with carbide coolant-through drills and solid HSS drills. Additionally, center drilling should be a process of the past by now. The use of self centering

CNC drills helps eliminate the need for center drilling.

Combination tools are also available to further reduce process time. Reaming and drilling is a

process that can be put into one tool. The use of a reamer can eliminate two processes. Another advance technology is drilling hardened material up to 70 HRC. This practice can eliminate the lengthy process of EDM. Taking advantage of these new technologies can help shops effortlessly reduce process time.

When in trouble, bear in mind to focus on drill substrates, geometries and process set up that relate to work material. The “ace in the hole” happens when these dynamics are coupled with other variables such as speed/feed, alignment and coatings. It may take time to figure it out at first, but once the problem is solved, maybe you too could become as rich as Bill Gates!

“Embracing new tool technology is the best solution for improving process and process time.”



Short Cuts

Durable goods orders fall, business spending up

New orders for manufactured goods like cars and planes fell unexpectedly for a second straight month in June, the Federal Reserve reported in July.

Strong sales of long-lasting manufactured goods, however, showed cash-flush businesses continued to invest in equipment. This implies underlying demand remains intact with firms exhibiting confidence in the moderate economic recovery, the Commerce Department said.

Feature

Think Differently, Think Powder Metal

Mark Wolfe, CCA, Inc. Distributor



The American economy has made a significant comeback over the last couple

of months. Most people feel the worst is finally over. Manufacturers were reluctant to test new tools in previous year due to tightened budgets as they waited out the economic storm. With production gradually recuperating from the recession, job shops have once again become more willing to test new tools and explore possibilities to improve machining processes.

Located in Sheridan, Ind. is a part supplier for John Deere, Caterpillar

and Cummins Engine. This customer primarily turns steel parts with production runs of 200 to 1,000 pieces. Most parts are run from bar stock.

One day the owners, Jim and Larry Newby, asked me for suggestions on decreasing cycle time on some of their parts. They specifically asked about drilling operations. "What would perform better than a HSS, but would not cost as much as solid carbide?" Jim asked. My answer was simple, powder metal.

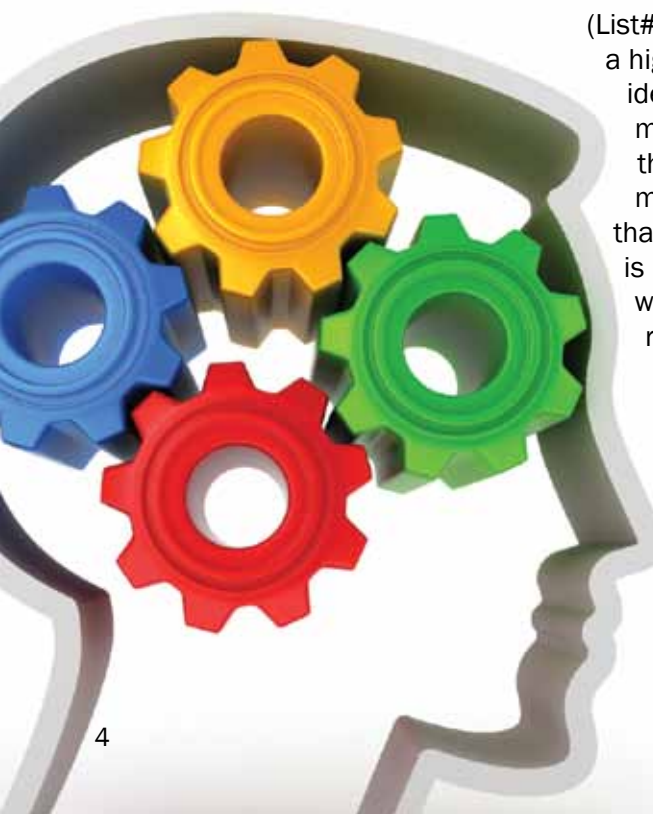
I began to introduce to Jim and Larry about OSG's line of VPH® drills. OSG's V-Series VPH® - GDR Drill (List# 1950) is made out of XPM, a high grade powder metal HSS ideal for Ni-Alloys and difficult-to-machine materials. It is tougher than carbide but can run at much higher speeds and feeds than regular HSS. The VPH® line is perfect for lathe applications where the drill may not be running exactly on centerline. Geared for a wide range of materials, the VPH® drill shines in low to high carbon steel. The VPH® series is now being manufactured with OSG patented WD1 coating. This coating has a higher oxidation temperature and is harder than TiCN. The WD1 coating allows higher speeds

and feeds versus the previous "V" coating. After agreeing to test I ordered a letter size "R" jobber length drill and scheduled a test the following week.

Excited to run the test, Jim touched off the drill and programmed 1,200 RPM at .008 IPR. This was already an improvement over their existing HSS drill that was running at 800 RPM and .005 IPR. The material was 1117 steel. The part we were going to test had a cycle time of 65 seconds. Jim declared after running a couple of parts that the surface finish in the hole was better than the regular HSS drill. After increasing the RPM to 1,525 and the IPR to .009, the new cycle time was 41 seconds. This was a 37 percent decrease of cycle time, making 87 parts per hour vs. 55 parts per hour!

Through implementing the VPH® drill the customer was very happy with the results. OSG's VPH® powder metal drill will work magic in lathe applications. This drill is tough, gets great tool life and costs far less than a solid carbide drill. There are alternatives to HSS and it does not have to be carbide. Next time think differently, think VPH®.

"There are alternatives to HSS and it does not have to be carbide."



Editor

Submit a Letter to the Editor

OSG Cutting News wants to hear from you!



OSG values your opinion and input. Please write to us if you have success stories you would like to share, or have suggestions regarding our product or service. Please include your address, phone number and e-mail address for verification. Editors review all letter submissions for publication. No letter may exceed 800 words, and OSG Cutting News reserves the right to edit or reject any contributions.

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Glendale Heights, IL 60139.**

Pseudonyms or anonymous letters are not published. Those who have written letters being considered for publication will be contacted by OSG Cutting News.



Short Cuts

Analysts say second-quarter growth displays signs of strong business investment

With profits booming, companies have stepped up spending on equipment and software after aggressively cutting back during the recession.

Durable goods orders are a leading indicator of the manufacturing sector, which has benefited from businesses replenishing inventories drawn down to record lows during the recession.

OSG Insider

Servicing the Job Shop

Mike Brzezniak, District Manager

The job shop market is unique in that these shops must have tooling readily available to machine any materials. The number of cutting tools needed varies from job to job. Some projects are short-run, requiring only a few pieces per order; while others could require hundreds of cutting tools.

How do job shops stay prepared for different materials and different hole sizes? Oftentimes shops will utilize their existing inventory of drills regardless of materials. By using inappropriate tooling for an application, however, could raise cost

and jeopardize productivity.

Today's tooling manufacturers are capable of providing drills that are material specific. Drill recommendations are generally made based on the type of coolant a job shop has. With through spindle coolant, most materials can be drilled with one drill by adjusting speed and feed.

With flood coolant, on the other hand, different drills may be required for drilling different materials. Utilizing proper tooling allows job shops to reduce production costs while also reducing their tooling budget by purchasing less tooling. Convincing job shops of this cost saving is the responsibility of the manufacturer's representative.

Testing drills on the spindle is the best way to demonstrate to job shops that using the best tool for the application can save hundreds of dollars in production costs versus any tool they may have in the tool crib to do the job. Getting a shop

to test can be challenging - when busy, they have no time to test; when slow, they can't take the chance to scrap a part.

“Utilizing proper tooling allows job shops to reduce production costs while also reducing their tooling budget by purchasing less tooling.”

Overcoming these obstacles requires having a relationship with the job shop or distributor, but also the technical expertise to do the test. Once this process is complete and

the cost savings are realized, the tools must then be stocked locally.

Job shops rely on local distributors to have the right tools for immediate shipment. Knowing your customer's need is critical to the distributor, who is under immense pressure to have tooling available when needed. Communication is key for the manufacturer's representative to advise the distributor to have proper tooling stocked locally, especially after a successful test.

The trend has been for distributors to install vending machines or consigned inventory systems into the job shop's facility. With an automated system, tools are pulled based on demand. This allows the job shop to purchase tooling when needed and eliminates competition for the distributor, making it a win-win situation for all.



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2010 Catalog

Cutting Tool Solutions

Introducing the new Catalog on CD

The revamped 2010 catalog features new product lines for taps, drills, end mills and other premium tooling. The newly expanded catalog is now available on CD.

An online version of the new catalog can be accessed at www.osgtool.com. Customers can also request a free paper or CD version by contacting OSG at **800-837-2223**.



Short Cuts

Federal Reserve says some districts report slowing economy

While the US economy has showed overall growth in recent months, it has been uneven and even slowed in several regions, the Federal Reserve reported.

Manufacturing activity had slowed or leveled off in cities like New York, Cleveland, Kansas City, Chicago, Atlanta and Richmond.

A report issued by the government shows that new orders for costly manufactured goods unexpectedly dropped in June, hinting slowed growth in the factory sector. Retail sales, on the other hand, had increased modestly. Small improvements in the labor markets have also been encouraging, with several reports of temporary hiring. Consumer prices held steady in most parts of the country while wage pressures were described as "contained."

Testimonial

All Forming Taps are not Created Equal

David Aly, District Manager

Recently I was working with a customer on a tapping issue that included lack of chip control during the tap operation. This customer is a supplier of custom fabricated

metal products and machinery located in Winona, Miss. They have approximately 92,500 square foot of manufacturing facility and employ over 150 personnel. Some of their major products include fuel tanks, hydraulic tanks, and custom designed machining fixtures.

The recommended forming

“Just one test and he was truly convinced that all forming taps are not created equal.”

tap was OSG’s EXOTAP® -NRT® (EDP# 1415003808 M10X1.5 D6), a thread-rolling tap that stably makes thread without creating cutting chips. Its specially engineered

thread form enables high quality threads without burrs, which helps eliminate fallout in precision parts.

Initially, the shop foreman Mr. William Smith was not interested in using a forming tap. I discovered later it was due to a bad experience someone else in the shop had at another shop, with a competitor brand. I showed William a presentation made by our engineering department and asked him to give the forming tap a chance.

The chip flow demonstration video spoke volumes in explaining what he should expect.

After the presentation we approached his staff with OSG’s forming tap in hand. Their machine operator had obviously never seen

a forming tap before because his first question was, “where do the chips go?” William explained everything to the operator about what to expect.

After reiterating that there will be no chips we began the trial.

A few days later I called to confirm on progress. William very enthusiastically explained that he was still running the same tap. OSG’s EXOTAP® -NRT® Forming Tap is made from VC-10 Powdered Metal High Speed Steel designed for difficult-to-machine materials and applications. It has significantly reduced friction resistance by adopting a special threading design and surface treatment. Extra long tool life is applicable to various work materials including carbon steels, alloy steels, stainless steels and aluminum alloy.

William decided to purchase two more of the test size just in case something happened to the test tap in the machine. By this time he had lost count of the number of holes produced but assured me that it was well above 1,000 holes! Just one test and he was truly convinced that all forming taps are not created equal.



Product Highlight

HY-PRO® CARB 3D & 5D

Solid and coolant-through carbide drills designed for a multitude of materials



OSG's 3D and 5D Carbide Drills are an ideal compromise between performance and cost-efficiency. Their uniquely designed point and flute geometry helps reduce thrust forces and chip size, thereby enabling higher feeds and metal removal rates.

The applied multi-layered TiAlN coating resists thermo-cracking from heat, thus improving wear resistance over conventional coatings. Lastly, the common DIN shank sizes not only improve rigidity, but also reduce the number of tool holders needed to

accommodate them.

Engineered for performance and durability, OSG's 3D and 5D Carbide Drills offer unbeatable reliability and affordability users seek in today's competitive market.

To request a flyer and for more information contact:

OSG Tap & Die, Inc.
1-800-837-2223
www.osgtool.com



Short Cuts

Decreasing jobless claims raises optimism for recovery

New claims for unemployment benefits in the U.S. fell slightly more than expected in July, offering a ray of hope for market recovery. As of July 29, 2010, initial claims for state unemployment aid dropped 11,000 to 457,000, according to the Labor Department.

Despite the growing optimism, analysts said jobless claims this year remain above levels consistent with sustained jobs growth.

Testimonial

V-Series HELIOS® Drill - Ultimate Solution for M

Jamie Wells, Sup-R-Die, Inc. Distributor

One of my customers from Barberton, Ohio, has traditionally been a plastic injection mold builder. However, like most shops in today's economic climate, they were forced to diversify. The owner of this 5-man mold shop, Damir, is always looking to invest back into their shop to improve both products and manufacturing processes. As a smaller mold shop, providing timely delivery of a superior product is essential to staying competitive.

Sup-R-Die, the company which I represent, has been business partner with Damir's mold shop for several years both in tooling and mold components. A few years ago, I brought OSG's EXOCARB®-MAX drill to Damir's attention. Although he was

greatly interested in this high-speed carbide drill, his machine did not have the capability to run coolant-through drills.

Damir's shop, as well as most mold shops, drills several water lines in their molds. These water lines generally consist of long holes going through the mold bases. Mold shops will usually use long taper length drills that are typically quite slow. The process consists of many peck cycles, which also adds to machining time. Most shops have trouble drilling these holes, and with an older machine Damir was no exception.

After analyzing Damir's situation, I recommended OSG's HELIOS® drill. OSG's V-Series HELIOS® drill is a high-speed-cobalt drill designed for deep-hole drilling. It can eliminate the need for peck cycles and dramatically improve efficiency.

When Damir and I went through the HELIOS® catalog, he mentioned that his shop uses a 7/16 drill for most of their water lines. The

7/16 drill is used for a ¼-18 NPT tap. Damir noticed the 20xD 7/16 drill in the catalog, and we ordered one for testing. The drill we used was the HELIOS® 7/16 (EDP# 17524511) and the pilot drill we used was the V-Select 11.2 (EDP# 8594112).

It wasn't long before the drills arrived and the customer had a mold that needed to be constructed. Damir was anxious to see if the

drill would work as efficiently as I had promised. I invited my local OSG representative Doug Brubaker for the testing, and he was excited and willing to help out in any way that he could. Early the next morning, Doug and I arrived to set up. We reviewed the catalog again, and explained to Damir the HELIOS® drilling process. Again, traditionally he would use a long taper length drill. When we explained that there was no need for a spot drill or a secondary operation like reaming, he became even more excited. We were using an older Devlieg Horizontal on a 32 Hrc P20 work material. The pilot drill ran at 350 RPM and 3.15 IPM. Damir was skeptical of the drill performance at these speeds, even on the pilot hole. He was also concerned that he could not stop the drill on the older machine. If anything were to go wrong Damir could only reverse the drill completely out of

"HELIOS® can eliminate the need for peck cycles and dramatically improve efficiency."



No Coolant-through Capability

the hole back to the starting point. We explained that if the process ran correctly, it would not be a problem. The pilot hole ran with no issues.



We again brought out the HELIOS® flyer to clarify our approach to running the drill, and explained the importance of superior chip control. Damir only had one coolant nozzle, and it wasn't long enough to go the length of the drill. We steered it the best we could and began to run the long HELIOS® drill using the same Lindex holder that secured the pilot drill. The HELIOS® drill ran at 400 RPM and was fed at 2.41 IPM. We successfully ran the first hole to a depth of 8.75 inches without a hitch.

“OSG’s HELIOS® drill is a great option for shops with extremely tight tooling budgets and for older machines without coolant through capabilities.”

This operation was a blind hole but eventually the hole will go all the way through. Because of the size of the mold bases, the part needed to be flipped and drilled from the opposite side. Still unsure of the effectiveness of the HELIOS® drill, Damir took it out of the Devlieg to inspect. To his surprise there was no wear. We then began to drill the second hole. Since the programs were already set the second hole was done at an even quicker pace. Damir again inspected the drill and there was no wear. The operation completed in a breeze!

Normally these water lines can require up to 45 minutes to drill, even without reaming or other secondary operations. OSG’s HELIOS® drill is a great option for shops with extremely tight tooling budgets and for older machines without coolant through capabilities. As Doug and I were packing up, Damir came to us with a purchase order number and a very nice thank you. He explained how much time and money his new HELIOS® drill would save, and how even tiny changes can have a big impacts on smaller shops.



Short Cuts

China’s rising currency may accelerate cost inflation for U.S. companies

Beijing’s recent decision to allow the Yuan to appreciate against the dollar will result in higher commodity and wage costs for U.S. companies doing business in China. The prices Americans pay at home for goods manufactured in China is likely to increase.

Approximately one-third of clothes, more than 90 percent of toys, and about 75 percent of shoes sold in the United States are made in China, according to the National Retail Federation, a U.S. trade group.

While higher wages are driving up costs for manufacturers, increased income is allowing more Chinese consumers to purchase imported American goods.



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YOU MAY HAVE QUALITY,
BUT DO YOU HAVE OSG QUALITY?

WHAT'S THE DIFFERENCE?

Find out why & get tooled up FREE here:
www.osgtool.com/CN5



ENGINEERED Peace of Mind

*In the last 5 years, OSG has released 153 new products or 4824 new items.
Featured Above: New Product #139-140, EXOCARB® -FTO Drills.
All new redesigned coolant-fed drills feature OSG's brand new
WD1 nano-coating for ultra-high speed drilling.*

threading » drilling milling