



CONSTANT

QUICK CHANGE. ZERO OFFSET.
CONSTANT PRODUCTION.



Update your edge-banding tooling.

Your panels and laminates are continuously evolving,
it's time to change how you pre-mill them.

Send us your used cutters.

Purchase one set of inserts and one replacement set and we will provide the cutter body at no charge to replace your existing pre-milling heads. No more shipping charges, spare heads, or sharpening charges when only one or two edges are worn. You will have all the inserts and cutter bodies you need to get started repositioning and replacing inserts.

Our offer is simple and the change over is quick. Most importantly your production will never miss a step over worn knives, chipped laminates or an incorrect offset. Send us your used cutters in exchange for quality, efficiency and cost savings.

Ready to upgrade?
Complete this form and email constant@fscruing.com or call for your return authorization number and regional shipping address.

Exchange form

Company name:

Contact name:

Ship to address:

Province Postal Code

Machine make:

Machine model:

Quantity of cutters:

Limited time offer. Restrictions apply. Email constant@fscruing.com for details.

We'll send you innovation.

54° degree, low noise, disposable PCD insert pre-milling heads with Ridgeline positioning.

Listening to production line challenges and working with panel manufacturers has pivoted our product development from serviceable cutters to CØNSTANT's disposable PCD inserts. Your need to enter offsets and calibrate your banding process is eliminated and your tool management process simplified by enabling on-the-fly repositioning and replacment of inserts to address different laminates.

Ridgeline positioning

The laminates of today, and of tomorrow, feature exotic materials and complex profiles that demand sharp edges and aggressive shear angles. The curvature of CØNSTANT's inserts and the high shear slicing action extends edge life while providing a superior cut.

Trimming inserts need to be perfectly aligned and positioned. This is why CØNSTANT's locating region is protected under and behind the cutting edge. Stopping all dust and debris that leads to erosion-caused misalignment.

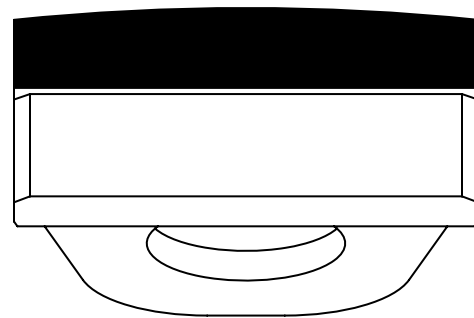


54° Degree

Why 54° Degree

Improve quality, run-time, accuracy, consistency and reduce complexity.

When cutting profiled, fragile, or laminates experiencing poor adhesion, CØNSTANT's accurate Ridgeline positioning combined with a 54° degree shear angle provides unrivaled edge quality and cost savings. The ease of accurately repositioning or replacing CØNSTANT's PCD inserts increases your yield per set of cutting edges. This becomes especially beneficial when trimming profiled, sensitive or problematic laminates by enabling fresh cutting edges to be applied at the most critical locations of the cut. Additionally the increased angle of cut provides more run-time per cutting edge, reducing production costs and latent downstream quality control costs.

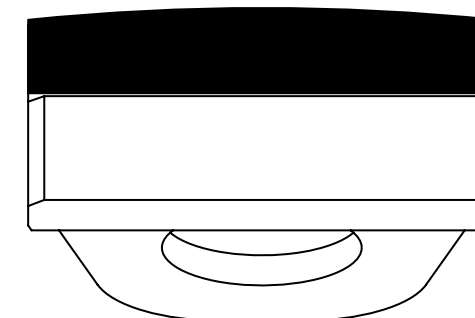


30° Degree

Why 30° Degree

Improve accuracy, consistency and reduce complexity.

CØNSTANT's core advantage of accurate replacable PCD inserts is inherient due to it's unique Ridgeline positioning. Where your existing pre-milling cutters provide good results and meet your production needs, continuing with the traditional shear angle of 30° degree will maintain your approved quality standards while improving your calibration and banding setup process. This can be especially beneficial where the occurance of foreign debris causes damaged cutting edges or durable, 0.020" or thicker flat laminates are used.



~6.8
gmm

Balance rating (median) of steel bodied brazed cutters tested while in production.

~4.9
gmm

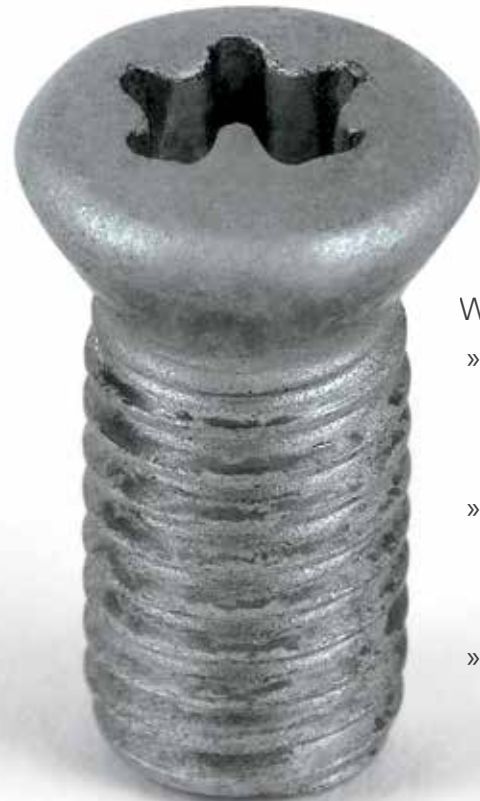
Balance rating (median) of CØNSTANT tested after replacing inserts and used in production.

The difference?
Inserts are
changed when
chips happen.

Balancing that won't screw you.

Because you can change inserts in the field.

Yes, we tested. Many times. The spindle frequencies are within tolerance and performance is repeatable. Most importantly we put CØNSTANT in the field with operators, not only tooling engineers, and a torque wrench fixed at 100 in-lbs. The results were consistent, proper mounting and repositioning of inserts that added up to cost savings and improvements in cut quality, especially where laminates and banding were changed often.



Why is it better for my spindle?

- » 54° degree shear reduces cutting pressure and pressure on the spindle.
- » Aluminum bodies provide less mass to negatively affect the spindle.
- » Comparatively, traditional steel bodied brazed cutters weigh more, exacerbating the affects of imbalance as tips chip and wear.

Why disposable make sense.

This process focuses on yielding the lowest total production cost.

In high volume production environments or where materials contain inclusions that periodically damage cutting edges to the point they require re-tipping, our recommendation is to reposition or replace only, rather than sharpen the inserts.

Achieving your lowest total production cost is our shared goal. Given that production costs include all inputs into a cell plus the costs absorbed by downstream departments, by mitigating downtime, additional training quality issues, and the risk of incorrectly dimensioned components, significant costs can be avoided resulting in saving that more than offset the cost of new inserts.

The case for disposing inserts

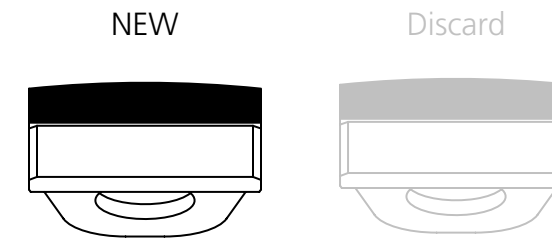


Table (A-1)

CHARACTERISTICS	
Freq. of inclusions:	existant, not-uncommon
Material used for calibration:	production panels are banded and measured during each calibration or banding change.
Training:	operators are primarily trained and assigned for workpiece handling. Programming offsets and calibration is dependent on secondary personnel.
Quality control:	non-conforming parts are typically identified downstream in production or in assembly.

If your operation matches the characteristics in Table (A-1), we strongly recommend disposing of inserts. The cost of this process control is illustrated in (A-2) and does not factor in any benefits from improved quality or throughput gained by disposing of inserts.

Illustration (A-2)

FINANCIAL ILLUSTRATION	VALUES FOR ILLUSTRATION PURPOSES ONLY
(2) 30° heads with Z=3x4 containing 12 inserts	
New inserts: approximately \$49 ^{.95} ea. (USD\$)	
Sharpening: approximately \$46 ^{.95} ea. (USD\$)	
Total cost to sharpen:	
Sharpening: 24 inserts x \$46 ^{.95} = \$1,126 ^{.80} (A)	
Total cost to replace all inserts:	
Replace: 24 inserts x \$49 ^{.95} = \$1,198 ^{.80}	

COST OF PROCESS CONTROL: \$72

Why sharpening does not make sense.

Due to the speed that Polycrystalline Diamond (PCD) is serviced at, the cost to sharpen is heavily influenced by the linear distance of the cutting edge. Unfortunately to maintain your cutting diameter when sharpening a set of inserts, the entire set must be serviced irregardless if some or all of the cutting edge is not worn. This means a lot of your money is being spent sharpening cutting edges that are rarely if ever used.

For example:

If you run 5/8" and 3/4" thick material and your cutters have a 2" kerf, there will be one if not two rows of inserts that never make contact with a board. By sharpening your inserts, you are maintaining the full set including unused cutting edges that provide you little to no value.

This is why we strongly recommend that you only replace the worn inserts with new inserts. Do not replace unused inserts. Do not sharpen unused inserts. Allow the unused inserts to save you money. The advantage of this process is illustrated in (B-1, B-2) and does not factor in the benefits from improved quality and throughput gained by disposing of inserts.

The case for NOT sharpening inserts

Traditional Cutters

Illustration (B-1)

FINANCIAL ILLUSTRATION

VALUES FOR ILLUSTRATION PURPOSES ONLY

(2) 30° heads with Z=3x4 with 120 Linear MM

Sharpening cost: approximately \$550⁰⁰ ea. ^(USD\$)

Total cost to sharpen (2) cutters:

Sharpening: (2) x \$550⁰⁰ = \$1,100⁰⁰ ^(A)

CØNSTANT Insert Cutters

Illustration (B-2)

FINANCIAL ILLUSTRATION

VALUES FOR ILLUSTRATION PURPOSES ONLY

(2) 30° heads with Z=3x4 containing 12 inserts

New inserts: approximately 49⁹⁵ ea. ^(USD\$)

Total cost to replace (6) worn inserts per cutter:

Replace: 6 inserts x 2 cutters x \$49⁹⁵ = \$599⁴⁰ ^(B)

TOTAL SAVINGS: \$500 compared to traditional cutters (B-1^A)

TOTAL SAVINGS: \$427 compared to CØNSTANT service (A-2^A)

Ready to start?

Two ways to start. One very positive outcome. Select yours.

COMPLETE PACKAGE

CØNSTANT

QUICK CHANGE. ZERO OFFSET.
CONSTANT PRODUCTION.

LOADED CUTTERS



COMPLETE PACKAGE

CØNSTANT PACAKGE (A)

PACKAGE CONTENTS:

- (1) LEFT-HAND CUTTER
- (1) RIGHT-HAND CUTTER
- PCD INSERTS, **2 SETS** PER CUTTER
- MOUNTING SCREWS, **1 SET** PER CUTTER
- 6 - REPLACEMENT MOUNTING SCREWS
- PRE-SET TORQUE WRENCH[‡]
- T25 SOCKET BIT[‡]

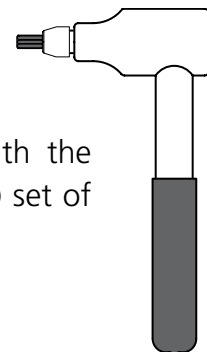
The COMPLETE PACKAGE includes everything you need to get started and to keep going in full production and includes our **special offer** of no charge cutter bodies to replace your existing pre-milling heads. No more shipping charges, spare heads, or sharpening charges when only one or two edges are worn. Having the replacement inserts on-hand guarantees you can respond quickly to sensitive materials or worn inserts, and tight delivery schedules by repositioning and replacing inserts.

Included is our our non-adjustable CØNSTANT Torque Wrench[‡] pre-set to 100 in-lbs that is critical to CØNSTANT's success. It's not just a matter of performance and longevity, but also of safety. This is why we include a certified fixed torque wrench with all COMPLETE PACKAGES[‡].

CØNSTANT TORQUE WRENCH

‡ To qualify for your no-charge CØNSTANT Torque Wrench with the purchase of a COMPELTE PACKAGE, you must submit to us (1) set of your existing pre-milling cutters in any condition.

Why? We need them for our trophy room.



LOADED CUTTERS

CØNSTANT PACAKGE (B)

PACKAGE CONTENTS:

- (1) LEFT-HAND CUTTER
- (1) RIGHT-HAND CUTTER
- PCD INSERTS, **1 SET** PER CUTTER
- MOUNTING SCREWS, **1 SET** PER CUTTER

The LOADED CUTTERS package is a lean plug-and-play solution to getting you up and running. We will mount the first set of CØNSTANT inserts, making this an easy turn-key exchange for improved run-time, better cut quality, extra cost savings and simplicity.

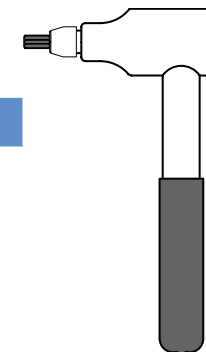
When it's time to replace an insert, order it. Need to replace a screw, order it. This package keeps your initial buy-in and inventory costs low and focuses on simplicity.

RECOMMENDED

We strongly recommend using our pre-set CØNSTANT Torque Wrench[‡] when mounting inserts because of the cutter body's aluminum constuction.

[‡] Not included in LOADED CUTTERS package

DESCRIPTION	PART NUMBER
TORQUE WRENCH, 1/4" DRIVE	CWR100
T25 TORX BIT, 1/4" SOCKET	CSBT25-1/4



©2017 FS Cruing Diamond Corporation, All Rights Reserved.

CONSTANT

QUICK CHANGE. ZERO OFFSET.
CONSTANT PRODUCTION.

Tel: +1 (905) 738-0145
Toll-free: (800) 461-5319

Questions?
constant@fscruing.com

