Tooling guide for Kongsberg C cutting tables
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Notes
The Kongsberg C tooling system

The Kongsberg C tooling system consists of a wide variety of optional tool units. These can be quickly mounted in the tool position.

There are three tool positions available, so you can use up to three tools on the same job.

1. **Heavy-duty (HD) Tool Position** for heavy-duty tools that are optimized for power
   - Heavy-Duty Tool Unit
   - Foam Cutting Unit
   - High-Power Milling Unit

2. **Fast Tool Position** for knife tools optimized for speed
   - Oscillating Knife Tools
   - Static Knife Tools
   - KissCutting Knife Tools
   - Rotary Cutting Tools

3. **Insert Position (optional)** that accommodates inserts for either pen plotting or drilling of holes
   - Drill Tool Insert
   - Ballpoint Pen Insert
Heavy-Duty Tool Unit
Sales code: 97AR5456

What is it used for?
The Heavy Duty Tool Unit offers the possibility to crease, V-notch and cut straight lines at high speeds with a variety of adapters. This ensures superior performance with heavy duty material such as double wall, triple wall and recycled board, plus the newest environmental boards.

It features 150mm (6") diameter crease wheels with a scoring pressure equivalent to 50kg – 110lbs; sufficient to crease triple and double-wall corrugated with heavy liners.

The large-size wheels also provide superior crease quality on recycled corrugated board, especially because a higher pressure can be applied without cracking the liner.

The HDU can offer V-notch cutting, with mitered corners and extremely precise folds for loading pallets, and container cushioning pieces, and paper core board displays.

Materials
All sorts of corrugated boards up to triple wall and including high recycled content, fluted core board, honeycomb, corrugated plastic, foam board.

Benefits
• 50kg -110lbs down force
• Powerful head rotation
• Large variation of V-notch tools (angles)
• HD knife tools

Included
HDU-C (Heavy-Duty Unit) tool package, including
• Heavy duty tool unit
• Crease wheel, Ø150 4-point
• Crease wheel, Ø150 6-point
• Crease wheel, U-shape Ø150
• Adapter for 26mm diameter wheels (w/o crease wheels)
• 2p / 26mm crease wheel
• 3p / 26mm crease wheel
• 6p / 26mm crease wheel
Foam Cutting Unit
Sales code: 97AR5458

What is it used for?
The Foam Cutting Unit is a heavy duty tool made for cutting a large range of foam materials up to 50mm (2”) thickness. These types of foam are typically used in the protective packaging industry.

The FCU is a reciprocating knife designed with characteristics optimal for low density porous material. It works with a stroke length of 4mm and a frequency of 4800 strokes per minute. The great Z-axis control gives an advantage when cutting foam because it ensures consistent partial cut, which is very important with many foam designs.

Support wheels safeguard the user from the sharp blades and improve cutting abilities by applying pressure on top of the foam material.

Foam materials can normally be converted at a speed up to about 15m/min with this tool depending on material quality.

A wide range of blades also makes it suitable for honeycomb and fluted core board.

Materials
• Polyethylene foam; expanded polystyrene, fluted core board, paper honeycomb board.
• Please note that some foam materials have a tendency to melt and stick to the knife, also materials with open cells would require additional hold down.

Benefits
• Perfect for cutting a wide range of foam materials at high speed
• Large range of specially designed blades for material versatility
• Support wheels to hold the material down

Included
There are two different adapters included, one for up to 32mm (1 ¼”) material thickness and one for up to 50mm (2”) thickness.

The adapters accept the SR63xx and the SR65xx style blades. Two blades of each type are also included.

Options
• Adapter for flat 40mm blades: 34014845
• See the Bits and Blades Catalogue for more information.
What is it used for?
The High-Power Milling Unit allows for milling, contour cutting, routing, drilling and engraving. It’s suitable for high speed routing in a wide range of materials such as foamed PVS, solid PVC/PS, acrylic, aluminum composite material (ACM), MDF, wood....

The 3kW milling spindle offers fast feed rates, thus considerably widening the bottleneck that routing jobs often present. The spindle features a 3kW of milling power and speeds up to 60,000 RPM. It is liquid cooled in order to utilize its full power potential.

The HPMU includes a software function to supervise and monitor the spindle current, which is useful to adjust the feed rate and RPM settings for new materials.

Material
Foamed PVC, solid PVC/PS, acrylic, aluminum composite material (ACM), MDF, wood...

The maximum material thickness that can be milled is 50mm (2”).

For milling thickness exceeding 25mm it is beneficial to use milling bits with 8mm shank size, used with an optional collet that interchanges with the standard 6mm collet.

Benefits
• High quality routing at high speed.
• High power, liquid cooled motor.
• Large range of specialized and balanced milling bits.
• Very fast milling bit exchange

Included
Milling starter kit for 6 mm shank:

• 1x Acrylic, single flute, 3 mm tip, 11 mm flute length
• 1x Acrylic, single flute, 5 mm tip, 22 mm flute length
• 1x Multi-purpose, 3 mm tip, 11 mm flute length
• 1x Multi-purpose, 5 mm tip, 22 mm flute length
• Felt Milling underlays: approx. 3mm thick

Options
• (97AR5729) LubriCool misting Option – see separate chapter.
• Optional collet shank sizes: 3mm, 8mm see bits and blade catalogue.
• Non slip routing underlay – See online shop
LubriCool Misting Option for HPMU
Sales code: 97AR5729

What is it used for?
LubriCool is an option for the High-Power Milling Unit. It cools the milling bit and lubricates the routing process. Resulting in significantly higher productivity and an extended life length of the milling bits for materials such as Aluminum composite Material (ACM) and some aluminum alloys.

The system is set up with a reservoir with special “oil” that is converted into a mist with help of compressed air and a mixing zone.

The mist is sprayed directly on the router bit via three nozzles during operation, only a small drop off oil every 10 seconds is needed (factory present). This small amount ensures no trace on samples and low consumption.

The system can be turned off when routing materials where misting is not beneficial.

Benefits
• Higher productivity (run faster with less passes)
• Smoother routing surface, less after work
• Extended life length of router bits

Materials
Aluminum composite Material (ACM), aluminum

Included
Routing liquid.
**What is it used for?**

This tool is suitable for single and double-wall corrugated board and other light-duty fibrous materials, such as corrugated board, soft foam board and corrugated plastic.

It runs at a frequency of 6000 Strokes per minute and with an amplitude of 0.3 mm.

These properties, along with a powerful motor, enable cutting at full table speed with good quality materials.

A floating foot is used to reduce material tear and to keep the material down.

The cup is made of synthetic material to avoid scratching of printed surfaces.

Maximum cutting thickness: 20mm - 3/8”–¾” depending on blade.

Different knife adapters allow for different knife types. Maximum cutting thickness is 10-20mm - 3/8”–¾” depending on blade.

**Material**

Corrugated single wall, corrugated double wall, micro flute, soft foam board, corrugated plastic.

**Benefits**

- High Speed (full machine speed when using good quality board)
- Cuts a wide range of porous materials
- Large range of high quality long life knife blades.

**Included**

- Adapter for SR6xxx blades includes 3 x BLDSR-6223 and 3 x SR-BLD6224 knife blades.
- A gliding foot for 20mm – 3/4” material cutting thickness.

**Options**

- (97AR931) Separate knife blade adapter for SF216/217, including 4x BLD-SF216 and 4x BLD-SF217 blades
- Works with a wide range of blades, see the Bits and Blades Catalogue.
High-frequency VibraCut Knife Tool
Sales code: 97AR5463

What is it used for?
The High-frequency VibraCut Knife Tool is a high-frequency reciprocating knife tool for cutting a lot of different materials, such as corrugated board with high-recycled content, soft foam board, corrugated plastic and fluted core board.

It runs at a frequency of 12000 strokes per minute and amplitude of 1.2 mm.

These properties, along with a powerful motor, enable cutting of heavily recycled board at efficient speed.

A floating foot is used to reduce material tear and to keep the material down.

Material
Corrugated material with high recycled content, fluted core board, Honeycomb board, soft foam board, corrugated plastic, high density foam.

Maximum cutting thickness: 20mm – 3/4” with short foot, 30mm – 11/4” with long foot.

Benefits
• Multi-purpose reciprocating knife tool for heavy duty board.
• Good performance with high recycled content board.
• Large range of knife blades.

Included
• Adapter for SR6xxx blades, incl 3x BLD-SR6223, 3x BLD-SR6224, 3x BLD-SR6310 and 3x BLD-SR6303 knife blades
• Gliding foot for 20mm – 3/4” material cutting thickness.

Options
• (97AR931) Separate knife blade adapter for SF216/217, including 4x BLD-SF216 and 4x BLD-SF217 blades
• (97AR5148) Gliding foot for 30mm – 11/4” material cutting thickness.
• Works with a wide range of bits and blades, see Bits and Blades Catalogue.
What is it used for?
The CorruSpeed Tool is developed for cutting corrugated board at high speeds without oscillating. The CorruSpeed Tool achieves significant time savings on many corrugated boards, even with recycled content.

The CorruSpeed operates with a crushing cup, which in combination with controlled down pressure makes it possible to use a drag knife without tearing or cracking the liner.

Setting up the tool for different board qualities is easily done with help from adjustment wheels / knob.

The tool also comes with two edge crushing cups, radius 16 and 14,5 where the 14,5 gives more pre-crush.

Which cup to use depends on the thickness and quality of the corrugated board. The feet are easy to change; they are guided by pins and magnets and snap in place easily.

The CorruSpeed Tool is designed to work with corrugated board up to double wall BC flutes (7mm).

Benefits
- High productivity (in many cases the full machine speed: 100m/min)
- Silent, the only noise you hear is the machine movement.
- Smooth cut, the tools doesn’t oscillate, so that means no tagged edge
- Pre crushed lines: cutting lines are more similar to a die cut

Please note
- i-PC 2.0 or higher is required.
- For corrugated board with extremely short fibers and high recycled content, you might still need the properties of high frequency knife tools.

Included
- 2x crushing cups, with radius 16 and 14,5
- 8 standard knife blades: 2x BLD-SR8170, 2x BLD-SR8172 2, BLD-DR8160 and 2x BLDDR8180

Options
Works with the SR/DR 8XXX blades, see the Bits and Blades Catalogue.
Rigid Material Knife Tool
Sales code: 97AR5460

What is it used for?
The Rigid Material Knife Tool is a static knife tool suitable for a wide range of materials at high speed. There is a large selection of knife blades available that makes it possible to cut everything from light weight detailed work to heavy rigid board like plastic foamed PVC 3mm.

The maximum cutting depth is defined by the blades; maximum thickness is 13 mm / ½ inch.

Material
Flexible plastic sheets, foamed PVC up to 3mm, triple wall corrugated, soft foam board, corrugated plastic, cardboard, display board, vinyl, PVC banner.

Benefits
• A flexible all around knife tool, used for a wide range of applications
• Rigid board cutting at high speed
• High quality specially developed blades

Included
2 x BLD-DR8160, 2 x BLD-DR8180, 2x BLD-SR8170, 2x BLD-SR8172

Options
• Works with all Kongsberg knife blades in the BLD-SR/DR8xxx series, including asymmetric blades for burr-free edges.
• Crease blades
What is it used for?
The Psaligraphy Knife Tool is specifically developed for fine details in thin materials like paper and folding carton. This is archived by a spring loaded floating plastic foot in combination with special designed knife blades.

This tool is typically used for applications like greeting cards, invitation cards, promotional items, folding carton samples and psaligraphy art.

Benefits
- Cuts out intricate details without lifting, moving or tearing the material.
- High quality specially designed knife blades with long life.
- User friendly plastic foot that snaps in place guided by pins and magnets.

Please note
i-PC 2.0 or higher is required.

Included
2x BLD-SR6150 and 2x BLD-SR6151 round shaft cutting blades.

Optional
Works well with all Kongsberg knife blades in the BLD-SR/DR61xx series including asymmetric blades for burr-free edges.
HiForce Knife Tool
Sales code: 97AR5461

What is it used for?
The Hi-Force knife tool is a general purpose knife tool, suitable for cutting a wide range of flexible, paper based and rigid materials. The high down force is achieved by directly using the machine Z-axis, which allows for cutting intricate details in tough materials. To reduce material tearing and keep the material down, a floating foot is available.

The maximum cutting depth is defined by the blades, with standard adapter maximum thickness is 3mm / 1/8 inch.

Different knife adapters allow for different knife types, see options.

Material
Flexible plastic sheets, folding carton, display board, vinyl, PVC banner, corrugated plastic.

Benefits
• A flexible all around knife tool
• High down force
• Wide range of adapters and blades

Included
Adapter for SF blades, incl. 4x BLD-SF216 and 4x BLD-SF217 blades.

Optional
• (97AR452) Separate knife blade adapter for half-length BLD-DF112/113 including 2x BLD-DF112 and 2x BLD-DF113 blade.
• (97AR5011) Separate blade adapter for the DR/SR61xx-series including 2x BLD-DR6160 and 2x BLD-DR6161 blade.
• Works with a wide range of Kongsberg knife blades in the BLD-SR/DR6xxx, DF112/113, SF216/217 series including asymmetric blades for burr-free edges.
What is it used for?
The PressCut Knife Tool is a specialty tool for kiss cutting adhesive vinyl (decals) and foils. It’s used for applications where it is important to keep the backing intact and only cut through the top film.

Due to the characteristics of the material, a spring loaded pressure is required in order to achieve perfect peal/weed quality.

The pressure is software controlled, allowing partial cut and through cut with same tool. It has an extremely fast-response on tool up/down movements.

The tool also features a software function that enables speed dependent tool pressure control, which is important to ensure reliable cutting when velocity ramps up and down.

Maximum downward knife pressure is 10N.

Material
Adhesive vinyl (decals), foil, diamond grade foil

Benefits
• Perfect weeding/pealing quality at high speed
• Tool pressure can be changed between kiss cutting and through cutting.
• Only the knife blade touches the material; i.e. no scratching of shiny or printed surfaces

Included
• incl. 3x KC101 and 3x KC102 knife blades
• A foot for accurate depth control when more pressure is required.

Options
Kongsberg knife blades in the BLD-KCxx series
What is it used for?
The RotaCut Tool is specifically developed for cutting textiles, canvas, mesh and other air transparent materials.

Since most textiles are more or less air transparent the vacuum hold-down system of the table will not be effective when cutting such materials. The RotaCut Tool has been designed with this in mind.

It operates by rotating a 10-facetted knife blade at 10 000 RPM. The blade protrudes from a slot in a hold-down foot that presses down on the material. The foot is made from a material that reduces friction to a minimum, and these properties, in connection with the fibrous surface of the conveyor belt, or felt mats; provide a hold-down sufficient for cutting most textile materials.

Maximum cutting depth is 2 mm / 0.07 inch.

Material
Textile, banner, canvas, mesh, carpet

Benefits
• Floating foot for material hold
• High speed 10-faceted knife blade
• Software controlled overcut function

Included
5x RC110 decagonal knife blades and tools for blade change.

Options
Applicable knife blades RC10 decagonal knife blade.
What is it used for?
The Tool Insert Fixture is an optional tool position and a prerequisite for the mounting tool inserts; the Ballpoint Pen Tool, Fiber Tip Pen Tool and the Drill Tool.
Ballpoint Pen Insert
Sales code: 97AR5031

What is it used for?
The Ballpoint Pen Tool is aimed for pen drawing, plotting and sample marking on materials such as folding carton, paper, cardboard and other paper based materials.

Please note
The Ballpoint Pen Insert mounts into the Tool Insert Fixture, which is an optimal tool position. (97AR5030)

Included
2x pen refills; black, medium line weight.

Options
Refill pen, see the Bits and Blades Catalogue.
Fiber Tip Pen Tool
Sales code: 97AR5370

What is it used for?
The Fiber Tip Tool option provides drawing capabilities on materials such as clear vinyl, which normally cannot be marked with ballpoint or liquid ink pens.

Please note
The Fiber Tip Pen tool mounts into the Tool Insert Fixture, which is an optimal tool position. (97AR5030).

Included
8 multi-colored pen refills, medium line weight.

Options
Refill pen medium and thin line weight; see the Bits and Blades Catalogue.
What is it used for?
The drill tool is aimed at light-duty drilling in materials such as fluted core board, honeycomb, soft foam board and triple wall corrugated. Mounting and creating fixations holes are the main applications. This tool has a 70W geared motor and spins with approximately 1000 rpm.

The adjustable chuck accepts drill bits ranging from 0.5 – 6.5mm, or 1/64” – ¼”.

Please note
The drill tool Insert mounts into the Tool Insert Fixture, which is an optimal tool position. (97AR5030).

Material
Fluted core board, honeycomb, soft foam board and triple wall corrugated

Included
2x 3mm and 2x 4mm drill bits are included.
HD Knife 17
Sales code: 97AR379

What is it used for?
Heavy-duty knife tool used for rigid board such as fluted core board, display board and triple wall material for fast straight cutting. Maximum cutting thickness is 17mm. Limited to straight lines longer than 50mm (2”).

Material
Fluted core board, triple wall, Honeycomb board.

Benefits
Straight rigid panel cutting at high speeds.

Included
5x BLD-TZ129
**HD Knife 30**

Sales code: 97AR725

**What is it used for?**
Heavy-duty knife tool used for fast straight cutting of rigid board such as fluted core board and honeycomb board material. The maximum cutting thickness is 30mm. Limited to straight lines longer than 50mm (2").

**Material**
Fluted core board, triple wall, Honeycomb board

**Benefits**
Straight rigid panel cutting at high speeds.

**Included**
2x BLD-TZ230, a specially designed, Tungsten Carbide knife blade.
V-notch Knife 45°
Sales code: 97AR620

What is it used for?
For 45° V-notch cutting in triple wall corrugated, corrugated plastic and fluted core board. Its application is to make a 90° partially cut V-notch for folding functionality or a through-cut leaving a slanted cutting edge.

Max. cutting depth is 16mm - .590". Limited to straight lines only.

Material
Fluted core board, honeycomb board, soft foam board and triple wall corrugated.

Benefits
• Perfect 45° slanted folding lines up to 16 mm material
• Specially designed high quality knife blades

Included
2x BLD-TZ511 5x BLD-TZ192
What is it used for?
For 45° V-notch cutting for tougher materials like corrugated plastic.

Its application is to make a 90° partially cut V-notch for folding functionality or a through-cut leaving a slanted cutting edge.

The maximum cutting depth is 10mm – 7/8”. This will provide a more accurate cut in thinner material due to the shorter free end of the blade which gives less flex.

Max. cutting depth is 10mm - .590". Limited to straight lines only.

Benefits
• Perfect 45° slanted folding lines up to 10 mm material
• Specially designed high quality knife blades

Material
Fluted core board, honeycomb board, soft foam board and triple wall corrugated.

Included
2x BLD-TZ511 5x BLD-TZ192
V-notch Knife 15°
Sales code 97AR982

What is it used for?
For 15° V-notch cutting in triple wall corrugated, corrugated plastic and fluted core board. Its application is to make a 30° partially cut V-notch for folding functionality, such as 12-edge polygonal pillars or a through-cut leaving a slanted cutting edge.

Max. cutting depth is 16 mm - .590". Limited to straight lines only.

Material
Fluted core board, honeycomb board, soft foam board and triple wall corrugated.

Benefits
- Perfect 15° slanted folding lines up to 16 mm material
- Specially designed high quality knife blades

Included
2x BLD-TZ511 5x BLD-TZ192
V-notch Knife 22.5°
Sales code 97A5763

What is it used for?
For 22.5° V-notch cutting in triple wall corrugated, corrugated plastic and fluted core board.

Its application is to make a 45° partially cut V-notch for folding functionality, for products such as octagonal pillars, or a through-cut leaving a slanted cutting edge.

The maximum cutting depth is 16 mm - .590". Limited to straight lines only.

Please note
This tool can only be used on Kongsberg cutting tables with iPC2.0 or higher.

Material
Fluted core board, honeycomb board, soft foam board and triple wall corrugated.

Benefits
• Perfect 22.5° slanted folding lines up to 16 mm material.
• Specially designed high quality knife blades.

Included
2x BLD-TZ511 5x BLD-TZ192
V-notch knife 30°
Sales code: 97AR983

What is it used for?
For 30° V-notch cutting in triple wall corrugated, corrugated plastic and fluted core board. Its application is to make a 60° partially cut V-notch for folding functionality, such as 6-edge polygonal pillars or a through-cut leaving a slanted cutting edge.

The maximum cutting depth is 16 mm - .590". Limited to straight lines only.

Material
Fluted core board, honeycomb board, soft foam board and triple wall corrugated.

Benefits
• Perfect 30° slanted folding lines up to 16 mm material
• Specially designed high quality knife blades.

Included
2x BLD-TZ511 5x BLD-TZ192
Crease Adapter 15mm
Sales code: 97AR101

What is it used for?
An adapter for using crease wheels with diameter 15mm is available as an optional crease tool to improve folding quality in thin materials. The application of this adapter is mainly folding carton and paper.

Material
Paper and folding carton

Included
Adapter only

Benefits
• Use 15mm crease wheel in combination with high down force.
• Creasing in thin materials

Options
All 15mm crease wheels
What is it used for?
An adapter for crease wheels with diameter 26mm is available as an optional crease tool. The application of this adapter is to enable a smaller sized wheel for micro flutes, folding carton and corrugated plastic. The smaller wheels and the heavy crease power, has a good effect on defeating the ‘memory’ of the plastic material.

Benefits
- Use 26mm crease wheel in combination with high down force.
- Creasing in tough plastic materials

Material
Corrugated single wall, micro well, corrugated plastic, folding carton

Included
Adapter only

Options
All 26mm crease wheels
What is it used for?
The 60mm Crease Wheel adapter offers the possibility to crease most corrugated thicknesses.

The medium-size wheels also allow for creasing with a higher pressure without cracking the liner, and with a limited over-crease.

It gives a sharper result to the 150mm crease and at the same time allows harder pressure than the smaller wheel diameters.

The optional 60mm Perforation Wheel pack offers the possibility to produce tear perforations at high speeds for corrugated board up to C flute (4mm).

Benefits
• Enables high speed perforation wheel cutting
• Enables high pressure, medium crease overcut

Material
Corrugated single wall, corrugated double wall, micro flute

Included
Adapter only

Options
(97AR5517) 60mm Perforation Wheel pack - For high speed perforation
Includes Perforation Wheel holder and four standard perforation patterns, 3x3mm, 5x5mm, 7x5mm, 10x10mm.

Please note: there is no software control on the wheel rotation, it is not possible to control how the perforation line starts, i.e. with a cut or with a space.
• a 4-point wheel suitable for E- and Micro Flutes
• a 6-point wheel suitable for B- and C-Flute
• U-shaped wheel for Double Wall Corrugated
Crease Blade Adapter
Sales code: 97AR5307

What is it used for?
Crease blades are typically used for creasing flexible plastic sheets such as polypropylene.

With this type of material a blunt blade will give better folding capabilities than what can be achieved with a crease wheel.

The adapter also accepts BLD-DF2xx blades, typically used together with the PressCut tool.

Benefits
Creasing in tough flexible materials

Material
Flexible plastic sheets, polypropylene

Included
• Crease blades adapter
• 0.5mm crease blade
• 1.0mm crease blade.

Options
BLD-DF212 and BLD-DF213 knife blades, for through-cutting of simple shapes.
For more information about the various tools you can contact us at info.eur@esko.com.

Order your bits and blades online

Visit the Esko Store to buy the best bits and blades for your Kongsberg cutting table.

www.esko.com/store