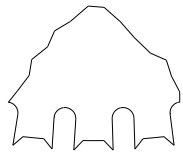


ROSBACK COMPANY

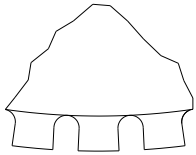
ROSBACK PERFORATION STYLES EXPLAINED

Rosback provides three different styles of perforation, “Slot-Cut”, “Knife-Cut”, and Micro-Perforation. Each style uses a unique blade, or cutter. These cutters are available in a variety of tooth patterns, referred to as “perforations per inch” or “teeth per inch (TPI). Please refer to our “Perforation Example Sheet” for samples of the available perforations per inch for each style cutter.

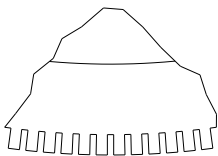
Tooth Profile Comparison



Slot-Cut



Knife-Cut



Micro-Perf

SLOT-CUT PERFORATING

Slot-Cut perforating cutters are designed to run between two lower perforating discs mounted on the lower perforating head assembly. Slot cutters will remove (punch out) a piece of material per tooth (a chip or chad), leaving a rectangular hole the same size as the tooth. Each tooth has a sharp point at the leading and trailing edge. These points pierce the material, cutting the front and trailing edge of each perforation slot. Slot cutters fits tightly between the two lower perforating discs; creating a shearing edge that cuts the sides of each perforated slot.

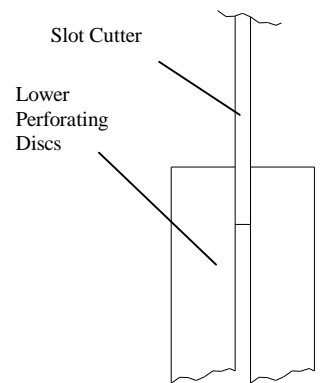
The gap between each tooth of the cutter is called the “bridge”. This bridge is the same size for all of the slot-cut perforating cutters. The bridge leaves the material intact between the perforations. This intact material is called the “tag”. More tags will produce a stronger line of perforation. Therefore a 12 TPI cutter will produce a perforated sheet with a higher burst strength than a 6 TPI cutter.

The lower perforating head assembly has a spacer washer and a “chip remover” between the two lower perforating discs. The spacer washer, or “chip remover insert”, is 0.012” thick (important!). This creates the correct gap between the two lower slot-perforating discs. Note that a new slot perforating cutter will be a very tight fit between the two lower perforating discs.

As each tooth punches out material, the chips are trapped between the lower perforating discs and are carried around until they contact the stationary chip remover, where they are ejected to fall down onto the chip chute.

Slot-cut perforating cutters should be used with the upper cutter fully engaged with the lower perforating discs. This is the fully down “P” position marked on the depth control hub. If the cutter slits the material or the teeth do not punch through the material at this position then the machine cutter shaft centers could be out of adjustment.

Always use a “Burr Roller” lightly pressing down on the line of perforation. If there are any paper fibers protruding from the underside of the perforations these will be pushed back into the perforated slots producing a reasonably flat sheet.



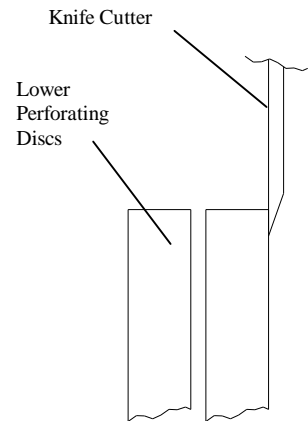
KNIFE-CUT PERFORATING

Knife-Cut perforating cutters are similar to the slot-cut perforating cutters. However, knife-cut teeth are designed to pierce the sheet without removing material, so no chips are produced. Because of this, a knife-cut perforation will appear less noticeable than a slot-cut perforation. The burst strength of the knife-cut perforation will be similar to the slot-cut perforation for any given TPI format. There is a special knife-cut TPI format called “six wide bridge”, or “6W”. This format features a wider bridge for very high burst strength.

The knife-cut perforating cutters are flat on one side, while the other is ground at an angle to produce a knife cutting edge. The knife-cut perforating cutters should be positioned with the flat side of the cutter against the outside edge of a lower perforating disc. Alternatively, the cutter can be positioned between the two lower perforating discs, but be sure to position the cutter’s flat side against the inside edge of one of the discs. Otherwise, the material being perforated may get trapped between the ground angle side of the cutter and the opposing lower cutter disc.

Knife-cut perforating cutters should be used with the upper cutter fully engaged with the lower perforating discs. This is the fully down “P” position marked on the depth control hub. If the cutter slits the material or the teeth do not punch through the material at this position then the machine cutter shaft centers could be out of adjustment.

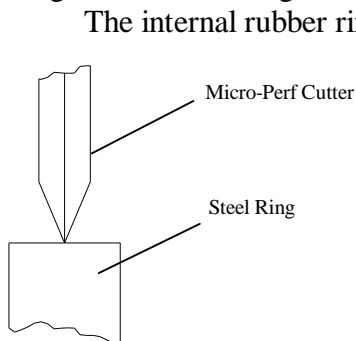
Always use a “Burr Roller” lightly pressing down on the line of perforation. This will push back the underside of the knife-cut perforations, producing a reasonably flat sheet.



MICRO PERFORATING

Micro-Perforating utilizes a different process than slot or knife-cut perforating. Micro-Perforating cutters are considerably thicker, and have very small teeth around the circumference that crush the perforation into the material using a special lower head assembly.

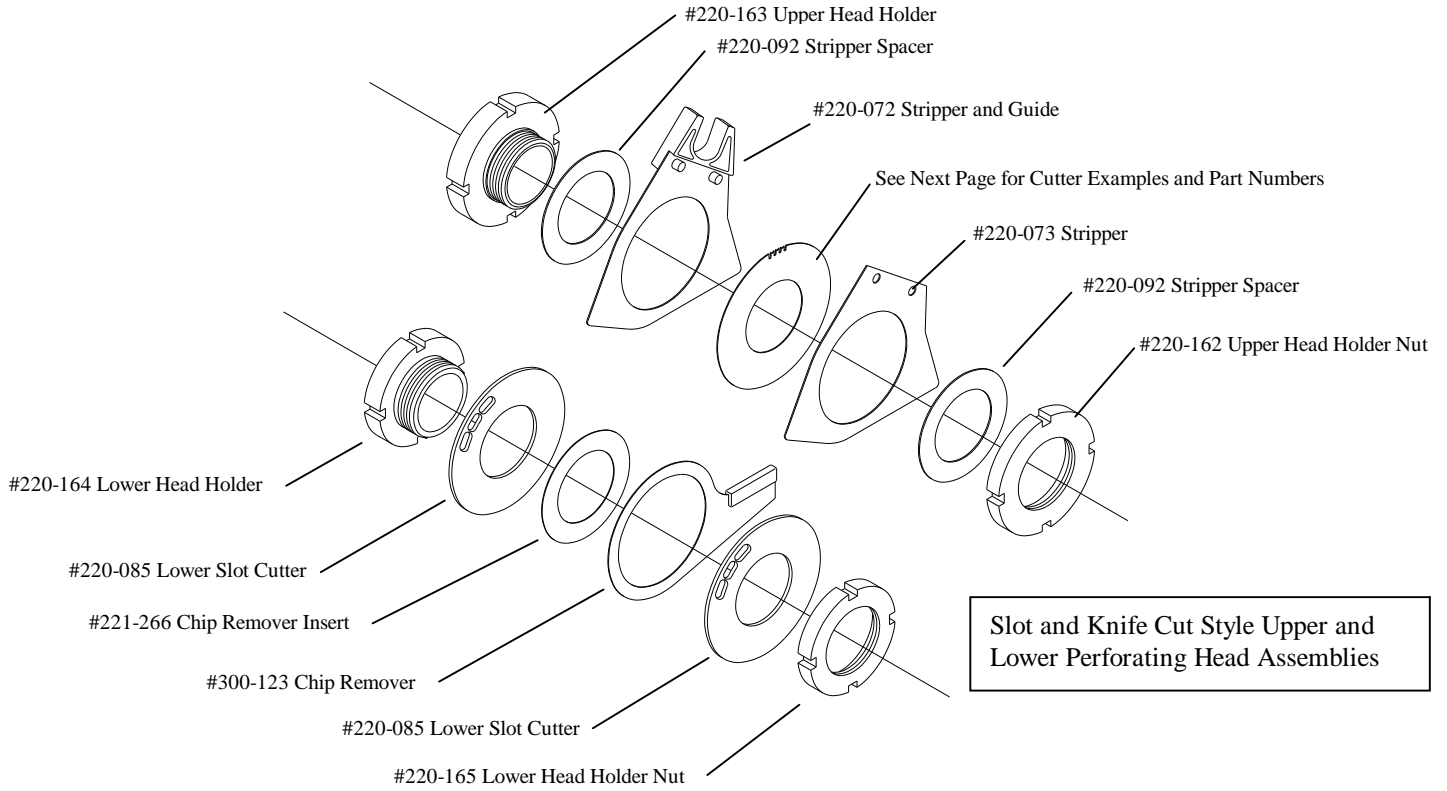
The micro-perforating lower head assembly has a precision ground steel outer ring that is supported internally by a rubber ring. The micro-perforating cutter is positioned over the middle of the steel ring, and the upper shaft is adjusted down until the cutter teeth contact the steel ring and compress the internal rubber ring. This pressure will force the teeth into any material passing between the cutter and the steel ring, producing a very fine line of perforation. Micro-Perforating is sensitive to depth control therefore slight adjustment of the depth control lever will alter the burst strength of the material. Start with the depth control lever at the 2 1/2 position. From this initial setting, raising the upper cutter shaft will produce a lighter perforation and a stronger burst strength, while lowering it will have the opposite effect.



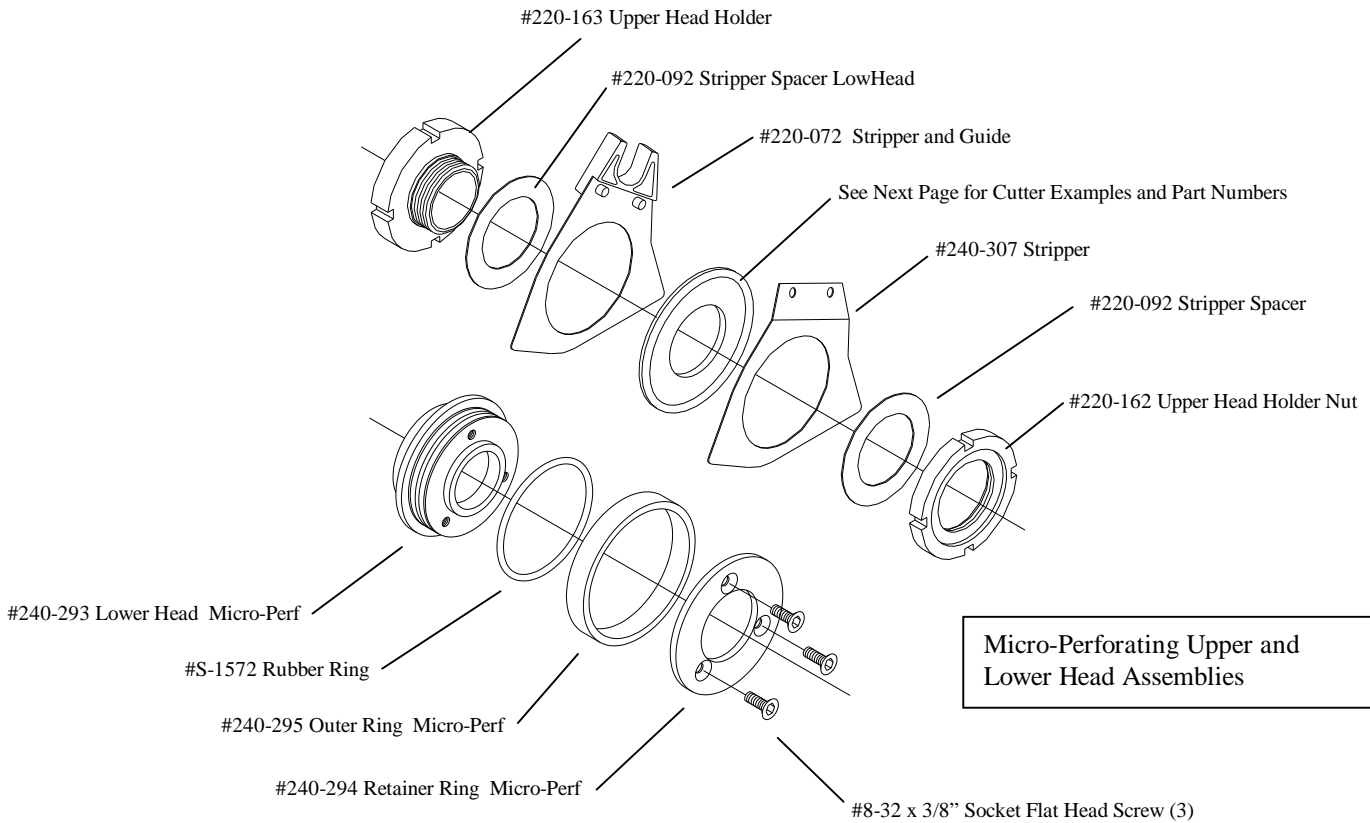
The internal rubber ring keeps the steel ring in contact with the cutter teeth as the heads rotate, compensating for any minor run-out present in the heads or shafts. Bent shafts and worn bearings should be replaced before attempting to use micro-perforating heads, or the perforation line produced may vary in appearance, depth, or strength. Always raise the upper shaft when not in use so the internal rubber ring on the lower head is not compressed for any length of time. If the rubber ring becomes eccentric it should be replaced.

Running the micro-perforating cutters against anything other than the micro-perforating lower head assembly will cause serious damage to the cutter teeth.

PARTS REFERENCE



Slot and Knife Cut Style Upper and Lower Perforating Head Assemblies



Micro-Perforating Upper and Lower Head Assemblies

ROSBACK COMPANY

Manufacturer of Quality Handcrafted Bindery & Finishing Equipment

**Different perforating & scoring examples produced on Rosback perforators.
(Skip-perf/Strike heads available)**

Part #221-028-03 (Slot-cut) 3 PERFORATIONS PER INCH Part #221-277-03 (Knife-cut)

Part #221-028-04 (Slot-cut) 4 PERFORATIONS PER INCH Part #221-277-04 (Knife-cut)

Part #221-028-06 (Slot-cut) 6 PERFORATIONS PER INCH Part #221-277-06 (Knife-cut)

Part #221-028-09 (Slot-cut) 9 PERFORATIONS PER INCH Part #221-277-09 (Knife cut)

Part #221-028-12 (Slot-cut) 12 PERFORATIONS PER INCH Part#221-277-12 (Knife-cut)

6 PERFORATIONS PER INCH~WIDE BRIDGE Part#221-277-6W (Knife-cut only)

Part # 240-297-36 36 MICRO PERFORATIONS PER INCH

Part # 240-297-54 54 MICRO PERFORATIONS PER INCH

Part # 240-297-72 72 MICRO PERFORATIONS PER INCH

Part # 220-A-113 SINGLE LINE SCORING/CREASING
(A single head package with three groove widths)

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Manufactured in the USA since 1881