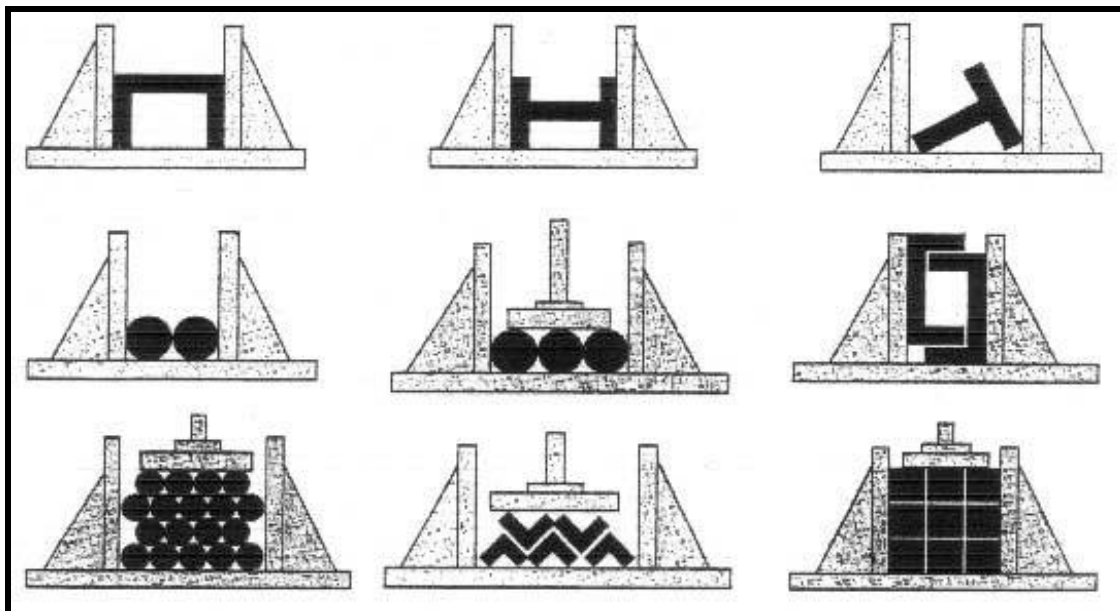


TIPS ON OPERATING A COLD SAW

- Protective eyewear or goggles must be worn at all times while attending and operating the metal saw.
- Do not attempt to operate the machine unless all safety guards are in operation. The guard must fully cover the blade when the head is in the uppermost position.
- Ensure that hands and arms are kept clear of the cutting zone when the machine is operating.
- Do not wear oversize clothing with long sleeves and oversize gloves, bracelets, necklaces or any other loose object that may become entangled in the machine's blade during cutting. Long hair must be tied back or placed in a hair net.
- Always disconnect the power supply to the machine before carrying out any maintenance work or adjustments. This includes cases of abnormal operations of the machine.
- Any maintenance work performed on the hydraulic, pneumatic or coolant systems must be carried out only after the pressure in the system has been released. The operator MUST NOT conduct any risky operations or those not required for the cutting in course (e.g. remove swarf shavings from the machine while cutting). Never move the saw while the machine is operating.
- Always keep the workplace are as clean as possible. Remove equipment, tools or any other objects from the cutting zone.
- Support the work piece on both sides of the machine to prevent it falling or jamming during the cutting cycle.
- Ensure that the specimen being cut is secured firmly in the vice clamps and the machine has been correctly set. Figure 1 show some examples on how to correctly clamp different specimen profiles. Before commencing the cut, be sure the vice(s) is securely clamped and the machine set-up is correct.



(Figure 1) Correct Clamping of Different Materials

Do not use cutting blades of different sizes to those recommended to the machine's specifications. Always follow safe practices and inspection procedures when installing blades. When cutting very small specimens, ensure that the work piece is not dragged behind the back fence support, where it could get lodged behind the blade. If the blade jams during a cut, activate the emergency stop function immediately. Do not continue forcing the blade through. This could damage the blade, the specimen or be a cause for potential injury to the operator. Always turn off the machine before carrying out any repair work.

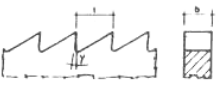
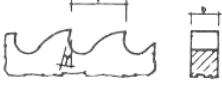


STANDARD BLADE SIZES

Outer Diameter (∅ mm)	Thickness (mm)	Bore Size (mm)	Number of Teeth
250	2.0	32	140
300	2.5	40	160
350	2.5	40	180
400	3.0	40	200

Recommended Blade Type: AISI M-Z High Speed Steel (62-64 HRC, Hollow Ground)
Blue-oxide coated for:

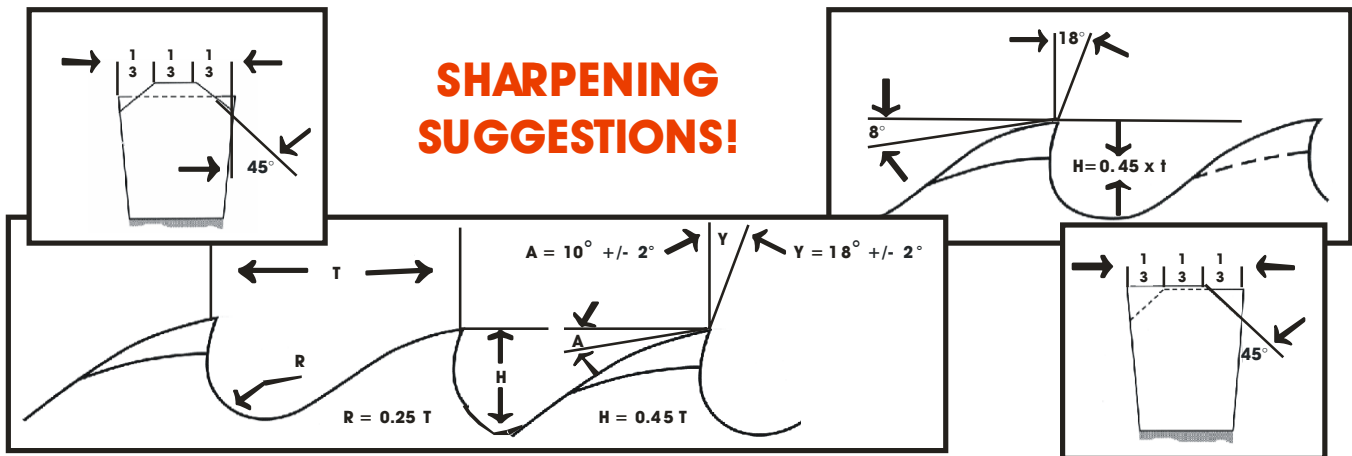
- Greater durability,
- Better coolant conveyance to the cutting edge,
- Reduces galling or "pick-up" on sides of the blade,
- Reduces brittleness of the steel.

RECOMMENDED TOOTH STYLES FOR DIFFERENT MATERIALS

STYLE A Straight Back	STYLE B Round Back Square Top	STYLE BW Round Back Alternate Top Bevel	STYLE C High-Low Round Back Triple Chip
			
For most aluminum extrusions	For copper, brass or aluminum tubing	For thin walled steel and non-ferrous tubing	For solid sections of ferrous or non-ferrous metal

Grind recommended for tooth pitches up to 4mm.

Grind recommended for tooth pitches over 5mm.



The following rake angles are recommended for general cutting requirements:

Normal Steel	Y = 18°	A = 12°
Hard Steel	Y = 15°	A = 8°
Stainless Steel	Y = 12°	A = 8°
Copper	Y = 20°	A = 10°
Light Alloys	Y = 25°	A = 10°

DID YOU KNOW?

- (1) Depth of tooth should be 45% of pitch (T)
- (2) Tooth gullet radius should be 25% of pitch (T)
- (3) Grinding wheel width should be 45% of pitch (T)

RECOMMENDED TOOTH PITCHES

Tube Diameter	Wall Thickness	225mm/9"	250m/10"	275mm/10.75"	315mm/12.5"	350mm/14"
1/2"	.030"-.090"	220	240	280	300	320
1/2"	.090"-.150"	200	220	240	280	300
1/2"	solid	180	180	200	220	280
1"	.030"-.060"	220	240	280	300	320
1"	.060"-.090"	220	220	240	280	300
1"	.090"-.150"	180	220	220	240	280
1"	solid	120	120	140	180	240
1-1/2"	.030"-.060"	220	240	260	300	320
1-1/2"	.060"-.090"	200	220	240	280	300
1-1/2"	.090"-.150"	180	200	220	240	280
1-1/2"	.150"-.250"	140	160	180	200	220
1-1/2"	solid	100	100	120	140	200
2"	.030"-.060"	240	260	280	300	320
2"	.060"-.090"	180	200	220	240	280
2"	.090"-.180"	140	160	180	200	220
2"	.180"-.300"	120	140	160	180	200
2"	.300"-.500"	100	110	120	140	160
2"	solid	80	80	100	120	140
2-1/2"	.030"-.060"	240	260	280	300	320
2-1/2"	.060"-.090"	200	220	240	260	280
2-1/2"	.090"-.150"	140	160	180	200	220
2-1/2"	.150"-.250"	120	140	160	180	200
2-1/2"	.250"-.400"	100	110	120	140	160
2-1/2"	.400"-.500"	90	100	110	120	140
2-1/2"	solid	60	60	70	80	90
3"	.030"-.060"			280	300	320
3"	.060"-.090"			240	260	280
3"	.090"-.150"			180	200	220
3"	.150"-.250"			160	180	200
3"	.250"-.400"			120	140	160
3"	.400"-.500"			100	120	140
3"	solid				60	80
3-1/2"	.030"-.060"				300	320
3-1/2"	.060"-.090"				260	280
3-1/2"	.090"-.150"				200	220
3-1/2"	.150"-.250"				180	200
3-1/2"	.250"-.400"				140	160
3-1/2"	.400"-.500"				120	140
3-1/2"	solid				60	80

NOTE - CHART GUIDE ONLY

This chart is issued as a guide only. Many other factors would attribute to the cutting performance of both the saw blade and the sawing machine.

TIPS ON CHANGING THE BLADE

To replace a worn saw blade:

- Slide the saw guard up as far as possible (as if it was opening during a cutting cycle) to gain access to the spindle nose.
- Loosen the spindle screws and remove the counter plate. To loosen the spindle screw, insert the wrench (short end) into the socket head cap screw and firmly knock the wrench with the palm of your hands until the screw is loosened. If this method fails to free the screw, place a piece of wood under the blade of the machine, and loosen (or tighten) the screw while holding the saw head of the machine down (blade against the timber).
- Remove the worn saw blade away from the spindle hub. Using a soft brush, clean the face of the spindle, counter plate and mounting faces of the blade of any dirt or swarf that was trapped by the previous cutting cycles.
- Place the old saw blade into the new blade packaging and disposed of it safely. Carefully mount the new blade onto the spindle hub, ensuring that the blade is rotating into and towards the back fence, and replace the counter plate utilizing the drive pins as guides as it passes through the pinholes on the blade.
- Rotate blade back against the drive pins in a counter-clockwise and finger tighten the spindle screw.
- Firmly retighten the spindle screws, ensuring that the saw blade spins uniformly and aligned parallel with the safety guard.
- Lower the outer guards.
- The new blade is ready for use. To check that the blade is performing correctly, carry out a sample cut on a piece of off-cut.