

FEATURES:

- premium quality high carbon steel
- hard edge flexible back allows blade to bend around the wheels at high rates of surface feet per minute without fatigue
- specially milled and hardened teeth (RC 62-63)
- will withstand intense heat generated by high speed sawing of hard and soft woods
- can also be used to cut mild, low alloy steel, non-ferrous metals and plastics
- cut and welded to length
- .025" thick

APPLICATION:

Especially suitable for radius (contour) cutting and resawing hard and soft woods on vertical band saws.

SPECIFICATIONS:

Item #	Width	Thickness	TPI	Tooth Style	Length
99649	1/8"	.025"	14	Regular	80"
99657	1/8"	.025"	14	Regular	93-1/2"
99665	3/16"	.025"	4	Skip	80"
99673	3/16"	.025"	4	Skip	93-1/2"
99681	1/4"	.025"	6	Skip	80"
99699	1/4"	.025"	6	Skip	93-1/2"
99706	3/8"	.025"	4	Skip	80"
99714	3/8"	.025"	4	Skip	93-1/2"
99722	1/2"	.025"	3	Hook	80"
99730	1/2"	.025"	3	Hook	93-1/2"

80" length blades are used on Sears Craftsmen 12" models
 93-1/2" length blades are used on Delta/Rockwell, Jet, Grizzly or other similar 14" models.

General "How-To's" for all Band Saw Blades



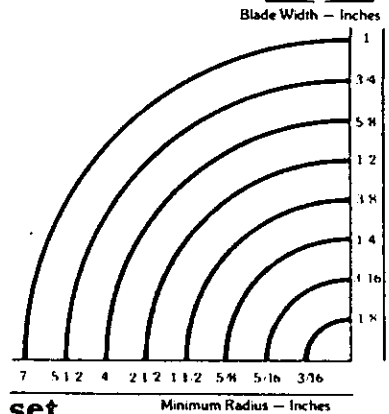
How to choose the correct blade width



Blade width is measured from the tips of the teeth to the back edge of the blade as shown above. The instructions for the particular machine being used should be followed when selecting blade width.

If no such instructions are provided, blade width should be determined with the following guidelines:

1. For Cut-Off Sawing, the blade should be as wide as the machine will allow. The wider the band is, the straighter the cut will be. Faster feeding can be achieved.
2. For Contour Sawing, the blade should be as wide as the machine allows, but still narrow enough so that it can cut the desired shape (radius). Minimum dimensions for different cutting radii are shown in the chart to the right.



How to choose the correct tooth style and set

Styles		
<p>Regular Tooth</p> <p>The most commonly used tooth shape. Ideally suited for both cut-off and contour sawing of most materials. For cutting thin materials where a fine cut edge is required.</p>	<p>Skip Tooth</p> <p>Widely spaced teeth with a 0° rake angle to prevent clogging when cutting soft, non-ferrous metals, plastics and wood.</p>	<p>Hook Tooth</p> <p>Positive 10° rake angle helps to "dig-in", resulting in a higher cutting rate. Recommended for long cuts into thicker wood, plastics and metal.</p>
Sets		
<p>Raker Set</p> <p>The raker tooth set consists of one to the left, one to the right and one tooth (raker) is unset. This set is used for cutting thick, solid metal sections on horizontal cut-off machines. It is also used for contour cutting and resawing wood on vertical band machines.</p>	<p>Alternate Set</p> <p>Alternate set or double alternate plus raker set blades are designed for cutting wood. Provides faster, smoother cuts.</p>	<p>Wavy Set</p> <p>This set pattern has groups of teeth set to the left and to the right, separated by unset raker teeth. It is made primarily with small teeth and is recommended for cutting thinner sections — tubes, pipes, thin sheets and other small shapes. 32 TPI only.</p>

How To Choose the Correct Number of Teeth Per Inch (TPI)

The number of teeth per inch (TPI) is important in obtaining the finish desired and the proper feed rate. A coarse tooth blade (2, 3TPI) should be used for resawing wood and cutting thicker stock up to 8". A fine toothed blade (18 to 32TPI) should be used for thinner metals, plastics, under 1/4". For general cutting of 3/4" wood 4TPI will provide a fast cut and 14TPI will cut slow but leave a smoother finish.

When Selecting TPI Remember:

- More TPI give a smoother but slower cut
- Fewer TPI allow a faster cut with a slightly rougher finish
- At least three teeth must be in the workpiece — the chart to the right will help you decide.

TPI	Minimum Material Thickness
32	3/32"
24	1/8"
18	5/32"
14	1/4"
10	5/16"
8	3/8"
6	1/2"
4	3/4"
3	1"
2	1 1/2"

How to determine the speed of the blade (SFM or Surface Feet per Minute)

It is important to know the SFM for the various speed settings of your band saw, so that you can select the proper speed for cutting wood or other materials. Check the operator's manual of your bandsaw to determine the SFM or use the following procedure:

1. Determine the RPM: check the operator's manual or clock the revolutions per minute of the wheels with a tachometer or revolution counter.

2. Measure the diameter of the drive wheel in inches and multiply by .262 to obtain the wheel circumference. The RPM times circumference equals the surface speed of the blade.

$$\text{RPM} \times \text{diameter in inches} \times .262 = \text{SFM}$$

NOTE: Olson Spring Steel Wood Cutting Band Saw Blades should never be operated at surface speeds above 3000 SFM. Olson Carbon Hard Edge Flexible Back Band Saw Blades may be run up to 6000 SFM.

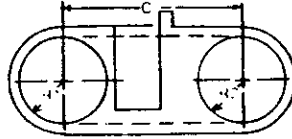
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General "How-To's for all Band Saw Blades

How to choose the correct blade length

If the Operator's Manual for your band saw does not specify the proper blade length, use the following procedure to determine the blade length:

1. Fix pulleys or wheels in working position.

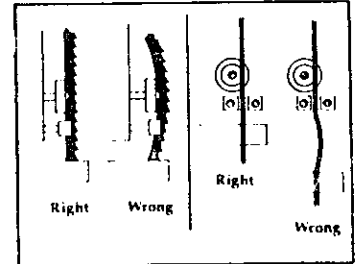


2. Determine distance from center of hub on upper and lower wheels (C).
3. Determine radius of the upper and of the lower wheel.
4. Apply formula as follows: $(R_1 \times 3.1416) \div (R_2 \times 3.1416) + (2 \times C) = \text{length}$

How to install your band saw blade

Unplug the saw, then loosen the tension on the upper wheel. With all the blade guides backed off, slip the new blade around the wheels and then tension it. When you have tensioned the blade enough to keep it on the wheels, track it by turning the upper wheel with one hand while adjusting the tilt of the wheel's axis with the other hand. The blade should ride in the middle

of the rim. Next, adjust the blade guides: first the thrust bearings; upper and lower, then the left hand side guides. Use a square to make sure you are not pushing the blade out of line and place a piece of white paper between the blade guide and the blade to allow for clearance. Never track the blade with the motor running and the cover open.



How to diagnose problems

1. PREMATURE AND EXCESSIVE TOOTH WEAR

- Feed pressure too light, increase it
- Lower band velocity
- Improper tooth selection, use a finer pitch
- Improper break-in with new band. Velocity and feeding should be reduced the first few cuts
- Teeth are running the wrong direction. Be sure teeth are pointing in proper direction
- Incorrect saw guide insert size for the band, allowing them to strike teeth



2. BLADE VIBRATION

- Increase or decrease band velocity
- Increase tension of band
- Teeth too coarse for workpiece
- Increase feed pressure
- Material not securely held

3. TOOTH STRIPPAGE

- Teeth too coarse for workpiece
- Material not securely held
- Too much feed pressure — reduce for good chip curl
- Band velocity too low — increase speed



4. FINISHED CUT SURFACE TOO ROUGH

- Improper tooth selection — choose a finer pitch
- Increase band velocity
- Decrease feed rate



5. PREMATURE BLADE BREAKAGE

- Thickness of blade too heavy for diameter of wheels and speed of machine
- Increase or decrease velocity
- Check wheels for defects
- Teeth too coarse for workpiece — use a finer pitch
- Decrease blade tension
- Decrease feeding force
- Brittle weld — increase annealing period, decreasing heat gradually
- Check for proper adjustment of band guides, saw guide arms, saw guide inserts and back-up bearings



6. BLADE MAKING BELLY-SHAPED CUTS

- Increase tension
- Adjust guides closer to workpiece
- Teeth too fine — use a coarser pitch
- Decrease feed force
- Teeth dull

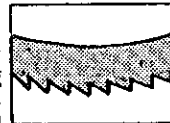


7. GULLETS LOADING

- Teeth too fine for workpiece — use a coarser pitch
- Decrease band velocity

8. BAND DEVELOPS A NEGATIVE CAMBER

- Band is riding on saw guide backup bearing too heavily. Adjust band for alignment on top and bottom wheels
- Check band wheel alignment



9. BLADE NOT RUNNING TRUE AGAINST SAW GUIDE BACKUP BEARING

- If clicking noise against saw guide backup bearing, remove burr on band
- Check band wheel alignment
- Check saw guide backup bearing for wear, replace if necessary
- Weld not in proper alignment. Reweld blade straight and true

10. CUTTING RATE TOO SLOW

- Increase band velocity
- Increase feed pressure
- Use coarser pitch

11. BLADE LEADING IN CUT

- Reduce feed pressure or rate
- Check adjustments and wear of saw guides or rollers
- Lack of band tension
- Tooth set damage



12. PREMATURE LOSS OF SET

- Improper width selection — check chart for correct width for radius cutting
- Reduce band velocity

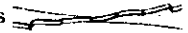
13. BAND DEVELOPS POSITIVE CAMBER

- Decrease feeding force
- Use a coarser pitch to increase tooth penetration
- Adjust saw guides closer to work



14. BAND DEVELOPS TWIST

- Wrong width for radius being cut — choose a narrower blade
- Binding in cut — decrease feed pressure
- Decrease band tension
- Adjust saw guides further from workpiece



15. BAND STALLS IN WORK

- Feed pressure too great — decrease feed
- Teeth too coarse, use finer tooth blade

16. BAND SCORING (Side Wear or Grooving)

- Check for wear on saw guide inserts
- Too much pressure on saw guide inserts
- Check alignment of saw guides — be sure they are square to front vise. Replace or clean guides



17. BURRING OR MUSHROOMING OF BLADE BACK EDGE

- Increase tension and adjust guides
- Check contact between blade and back edge rollers
- Reduce feed pressure
- Use coarser pitch blade

