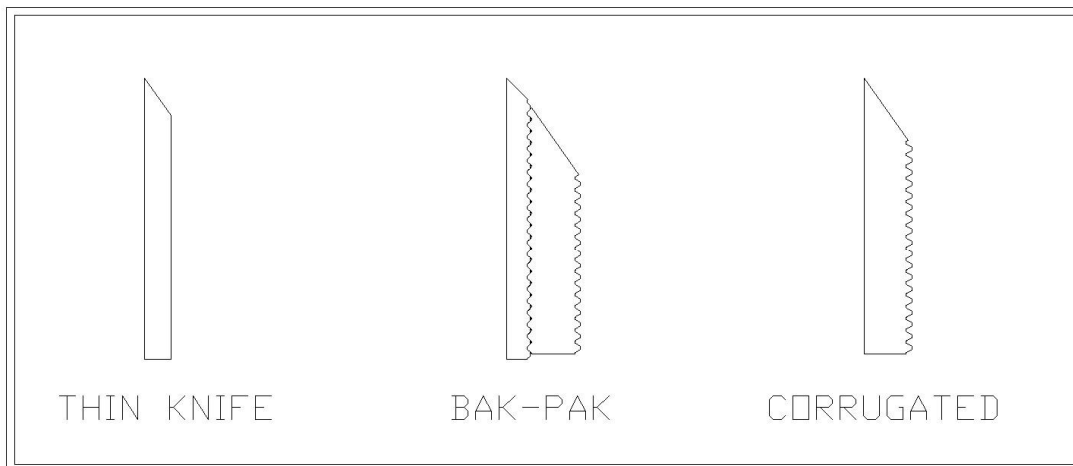


**BULLETIN 800H**



**Wisconsin Knife Works, Inc.**

# **GRINDING MOULDER AND PLANER KNIVES**

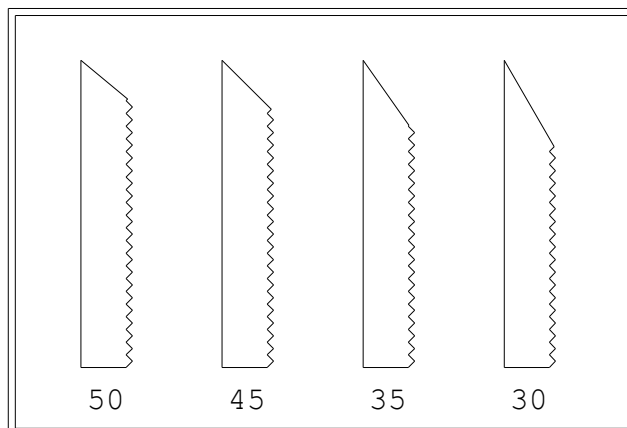


**Wisconsin Knife Works**

## HSS, AKM, D-2, AND OPTI KNIVES

When grinding moulder and planer knives, factors such as grinding wheel types and grit are often a matter of personal preference. A grinder operator may be able to get the same results using different abrasives by altering the RPM of the wheel and the rate of feed. There are, however, some important guidelines that should be followed in order to guarantee the safest and best operation.

Always be sure to read the operation instructions for your grinder as well as any information from the manufacturer of your abrasives and grinding wheels. Be sure to observe all safety instructions with regard to protective devices and proper ventilation.

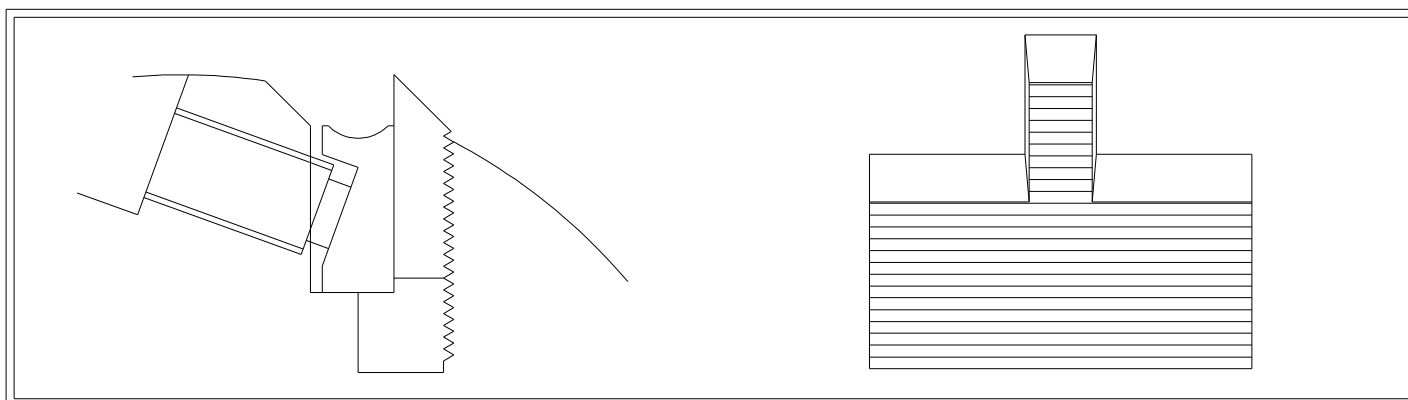


Whether you choose to grind using a single wheel, or rough grind with a coarse wheel followed up with a finish grind, the knife **bevel** that you maintain will play an important role in your success.

Generally, a 35 degree bevel will give the best results for most planing or moulding applications using High Speed steels, AKM or D-2. See illustration.

When using **Opti knife**, the best results are achieved when the knife is ground to a 45 or 50 degree bevel, or in other words, a more "blunt" bevel that leaves more knife material at the cutting edge.

Never grind or hone the face on **Opti knives** as this may remove the ultra hard surface of the knife. A better finish will be obtained on **Opti knives** if the grinding wheel RPM is increased by 500 RPM for the rough and finish grind.



## MAXIMUM PROFILE DEPTH

**Never** use a knife that has a profile depth more than **three times** the thickness of the knife. Never project a knife beyond the head body diameter more than **three times** the thickness of the knife. Call your

WKW engineer if you have any questions.

## MOULDER RPM

Never exceed 7200 RPM for corrugated knife heads and never exceed 3600 RPM for heads that use smooth back knives. When using Hydro-Lock cutterheads, always use a locking collar to guard against unexpected pressure loss that could lead to damage of the spindle and/or cutterhead.

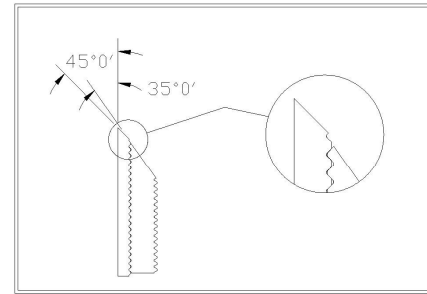
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## BAK PAK CARBIDE KNIFE SYSTEM

The Bak Pak carbide knife system is best ground in two steps. The steel backer is first ground to the profile in the same manner that you would grind a steel knife. The carbide blank is then located into the head and ground to the profile.

Best results are obtained by first grinding the carbide with a 100 to 120 grit diamond wheel and then finish grinding with a grit of 220 to 320 or finer.

3000 RPM will generally give best results when both rough and finish grinding. **Be sure to contact a WKW Engineer at 1-800-225-5959 if you are experiencing any difficulties with the Bak Pak system as many operators have achieved excellent results using widely different grinding techniques.**



BAK-PAK KNIFE BEVEL

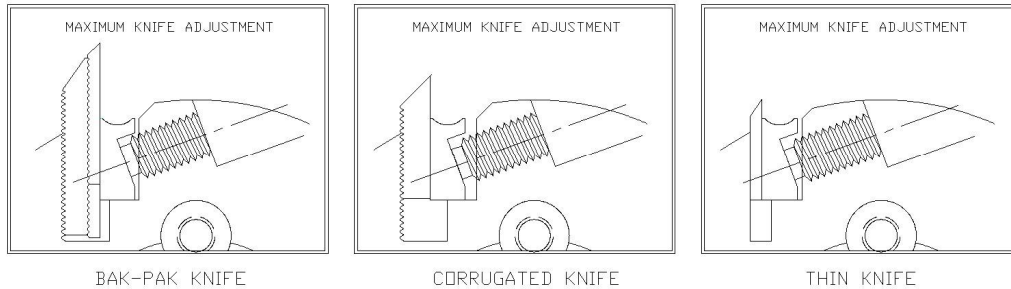
Best results are obtained with a bevel of 45 to 50 degrees on the carbide with a bevel on the steel backer of 35 degrees. Grinding the carbide blank to an angle sharper than 45 degrees will produce a cutting edge that will be prone to chipping and premature wear. See illustration. Several regrinds of the carbide are possible before the blank must be relocated into the next groove.

**Jointing** may be accomplished by using a 150 - 230 grit aluminum oxide stone. Be sure to follow the machinery manufacturer's recommended procedures.

**Balancing** is accomplished by balancing the carbide blank and the steel backer together, not as individual pieces. When necessary, grind material off the steel backer rather than off the carbide.

# MAXIMUM KNIFE PROJECTION

Whether you are using corrugated knives, Bak Pak knives, or smooth knives, **never** adjust the knife out to a point higher than recommended, and never adjust the knife to protrude more than three times the knife thickness. Refer to illustrations below for maximum knife adjustment.



**Wisconsin Knife Works offers a complete line of Industrial Woodworking Tooling including the following:**

**Moulder and Planer Knives      Custom and Stock Cutterheads**

**Carbide and High Speed Steel Router Bits**

**Shaper Tooling**

**Saw Blades and Dado Sets**

**Milled to Pattern**

**Fingerjoint Cutters**

**Wisconsin Knife Works <sup>TM</sup>**

**2505 Kennedy Dr., Beloit, Wisconsin 3511**

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**FAX : 800-336-1254 or 608-365-9588**

**Bits**

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