

Rear Parting Blade Holder, Parting Blade **And Replaceable Tip**

For engineers wishing to have the ultimate in equipment to part off with ease in the lathe, this is definitely the answer. The illustration in Fig. 1 shows three items which are available separately from Myford:-

Part 30/146 is a Quick Change, (Q.C.) Dixon type tool holder designed specially to fit the Myford rear toolpost and to take an Iscar parting blade (Part 78231) and Iscar replaceable tip (part 78232)



Fig. 1 The Quick Change Holder, Blade and Replaceable Tip

As Standard supply, the Myford Rear Tool Post comes complete with a parting blade holder and a $\frac{3}{32}$ " High Speed Steel parting blade. This goes a long way to solving parting off problems, and it has been found beneficial to grind a "V" in the top of the cutting edge (underside in the rear tool post) which greatly improves the cutting action. The reason for this is that the swarf is curled inwards during cutting and is therefore narrower than the slot being cut hence aiding swarf clearance.

Why Use a Carbide Tipped Blade ?

The downside to grooving the top of the standard parting blade is that it is almost impossible to carry out the V grooving without a sophisticated tool grinder and it is fairly difficult to carry out even with a controlled grinding process. Additionally, the V grooved parting blade will leave an uneven surface if it is used for turning a groove as opposed to parting off. This carbide tipped parting blade solves these problems in one easy solution.

The carbide insert used in the blade illustrated here combines the superb cutting action associated with carbide tools, with a sophisticated tip shape. This is particularly advantageous when turning the more difficult materials. The holder is placed in the rear tool post and clamps the blade horizontally using three setscrews bearing on a steel wedge to firmly hold the parting / grooving blade. The carbide tip itself is shaped to self grip into the blade and the tip actually becomes more securely gripped during use. The tip can

be easily removed by inserting the supplied key behind the tip and twisting. The tip may be removed and replaced, at will, without damaging the tip, and the blade will accommodate a tip at either end. The angles of the blade and tip combine to give the correct top rake required for efficient parting off. The holder is designed purely for use in the REAR toolpost, although it would be easy to fabricate an adapter to use the blade in the front Q.C. toolpost should that be required. *Fig.2* illustrates the tip inserted in the blade and holder.

The tip shape itself is illustrated in *Fig. 3* and you can see that whilst the front edge of the tip is completely straight to leave a smooth base to the groove being cut, to the rear of the cutting edge is a recessed area in order to curl the swarf inwards and create compact curls. This results in a most efficient swarf clearance system. The blade in *Fig.3* is shown inverted for clarity.



Fig.2 The Blade Assembled in it's Holder.

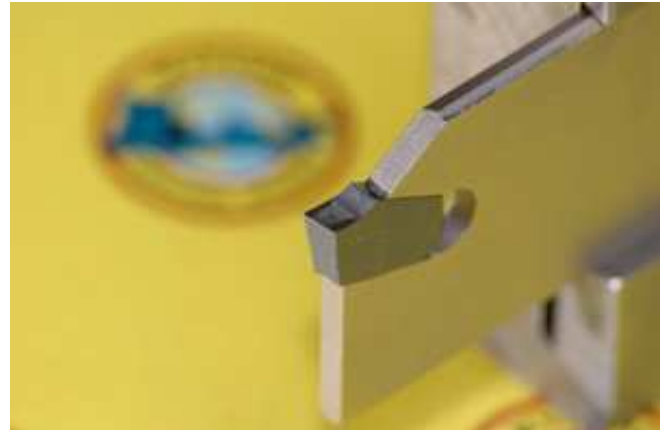


Fig.3 The Tip in Detail.

It is important when parting off that the blade is set exactly to the centre height of the lathe and in *Fig 4* the tip is being adjusted to the correct height, using a height gauge from the cross slide. The fine adjustment available on the quick change tool holder makes this a simple task and *Fig 5* shows the blade installed ready for use. As the blade is held horizontally, it is easy to adjust the overhang of the blade to the minimum required for the diameter of the work being turned, without disturbing the height setting. This is a great advantage compared to normal parting blades held at an angle.



Fig.4 Adjusting the Height of the Blade .



Fig.5 Ready For Action.

In use this parting tool is a dream to use. Gone are all the anxieties associated with parting off. In *Figs 6 & 7* the lathe was parting off thin discs from a 25 mm diameter steel bar with the lathe set in the lowest direct drive and the power cross slide on self act. It is normal to flood the work with coolant (suds) when parting off, but this particular lathe was not equipped with a suds pump and the operation was carried out by drip feeding neat cutting oil onto the work. The swarf was coming away in tight curls which were narrower than

the groove being cut as shown in *Fig 6*, The discs already cut are shown in *Fig 7* on the cross slide. It is hard to describe adequately just what a difference this blade makes and how an anxious time parting off becomes simply a soothing experience. These parting blades are well worth purchasing and fitting.



Fig.6 The Parting Blade in Action .



Fig.7 Discs Parting off in Automatic Feed.