







## About milling cutter, does suitable mill go against mill how to be chosen?

Above all, milling cutter direction of rotation and workpiece feedway are opposite. Every age when milling cutting ply from 0 arrive gradually the biggest cut after that, this makes go against mill.

Next, when milling cutter direction of rotation and workpiece feed direction identical. Every age when milling cutting ply from the biggest reduce gradually 0, this makes arrange mill.

About arranging mill He Nixi, respective characteristic is brief and wrap around as follows:

The first, when the change of cutting ply goes against mill, the cutting ply of every tooth by 0 add to the biggest. But cutting blade is not absolutely and sharp, point of milling cutter point always has circular arc to exist, tooth cannot cut work immediately, already machining however apparently extruding glides, make the sclerotic phenomenon of this surface serious, affected exterior quality, also make of tooth wear away aggravate. The cutting ply of the tooth when suitable mill is from the biggest to 0, but the wall when tooth cuts work is bigger, especially workpiece work surface is when semifinished product is crusty perhaps. (View 2) when going against mill, the tooth when going against mill by inside the cutting outside living, cutting by thin thickening, tooth from already machined the surface to be cut, advantageous to the use of milling cutter, cannot cut metallic layer immediately after milling cutter tooth contacts workpiece, be in however workpiece surface glide is apart from small paragraph one, in slip process, as a result of intense friction, can produce much quantity of heat, be in at the same time work surface is easy form sclerotic layer, reduced the durability of cutting tool, influence workpiece surface is bright and clean degree, bring to cutting adverse. When suitable mill, ply of the cutting when tooth begins to be contacted with workpiece is the biggest, and begin to be cut from exterior horniness layer, tooth gets very big concussion negative charge, milling cutter becomes blunt faster, but tooth is cut do not have slippage phenomenon into the process. In the meantime, suitable mill also more be helpful for discharging bits. Answer to use treatment of suitable mill law as far as possible commonly, be machined in order to rise of spare parts surface bright and clean degree, assure dimension precision. But there is horniness layer on cutting face, accumulate broken bits, workpiece surface is even more remarkable when, should use the method that go against mill.

The 2nd, the  $F_f$  of perpendicular cutting component of force that the influence of cutting force direction arranges the action when mill to go up at workpiece approaches next work from beginning to end, this is advantageous to the clamp of workpiece. The  $F_f$  when going against mill up, have the tendency that raises workpiece, easy cause vibration, affect the clamp of workpiece. The impact when mill thin wall and stiffness poor work is bigger. The shift of milling machine workbench is by drive of guide screw nut, there is whorl space between guide screw nut. The workpiece when suitable mill gets  $F_f$  of fore-and-aft component of force and feed movement way are same, and general advocate athletic speed is more than  $F$  of feed speed ?, accordingly fore-and-aft cent has the tendency with the whorl transmission detached side that makes contact into  $F_f$ , the hard spot that cuts material to go up when milling cutter or wait for a reason because of cutting ply change, cause  $F$  of fore-and-aft component of force to increase, when exceeding obstruction of workbench feed attrition, it is whorl formerly deputy the athletic form that promote turned the movement that drives workbench change to move by milling cutter into the form, cause feed to increase suddenly. This kind of change uses an appearance not only can cause "plunge into a knife", attain machines the surface; Serious when still can make tooth breaks off, or make shift of workpiece clamping apparatus, damage even machine tool. The workpiece when going against mill gets  $F_f$  of fore-and-aft component of force and feed movement way are opposite, the transmission working face of guide screw and nut is contacted from beginning to end, by whorl deputy drive workbench to move. On the milling machine of clearance of nut of indelible guide screw, appropriate is used go against mill, unfavorable with suitable mill.

