

عنوان مقاله:

Interactive Spur Gear Generation Using Parametric Programming with CNC End Milling

محل انتشار:

سومین کنفرانس بین المللی مهندسی دانش بنیان و نوآوری (سال: 1395)

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خلاصه مقاله:

The development of computer technology brings new opportunities in all sphere of manufacturing. Traditional methods of gear manufacturing with conventional machines have many disadvantages. The traditional methods are basically two types: Gearforming and Gear generation. Gear forming uses form cutters that are normally bought off-the-shelf and one cutter can be used repeatedly in machining many similar gears provided they are of the same module. Moreover, if the demand of the gear is very few, then buying a gear cutter for that purpose only may not be economical. In addition to that, all types of form cutter may not be available at all times. In this research work, an interactive program called MACRO is developed by which almost all types of gear can be manufactured by a simple end mill cutter in a CNC vertical milling machine only by changing some parameters. In this MACRO program, an algorithm describes the point to point movement of the cutting tool of the machine resulting generation of gear tooth profile more accurately which ensures minimum mechanical losses during power transmission.

کلمات کلیدی:

Parametric Programming, CNC VMC machine, gear module, gear generation, Accuracy, CAD/CAM

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