

國立虎尾科技大學 103 學年度第一學期博士班資格考試題

所別：動力機械系機械與機電工程博士班

第 1 頁 共 2 頁

科目：機械製造

注意事項：

- (1) 本試題共有 4 題，每題 25 分，合計一百分。
- (2) 請依序作答於答案卷上並註明題號，若未註明選答題號及超過規定題數時，謹採計作答順序較前之題目計分。
- (3) close book

1. Figure 1 indicates some hot tears in castings. Please review each one and offer solutions to avoid them.

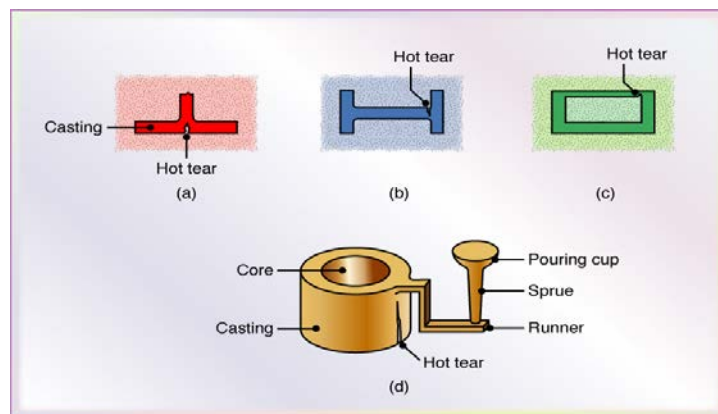


Fig. 1 Hot tears in castings

2. If you need only a few casting parts, which process would you use? Why?
3. Fig. 2 shows a round impression-die forging, made from a cylindrical blank as shown on the left. Please suggest a sequence of intermediate forging steps to make this part and sketch the shape of the dies needed.

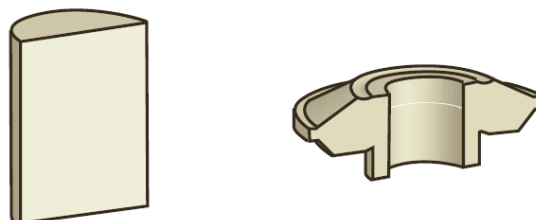


Fig. 2

4. As shown in Fig.3, how would you reduce the surface roughness ?

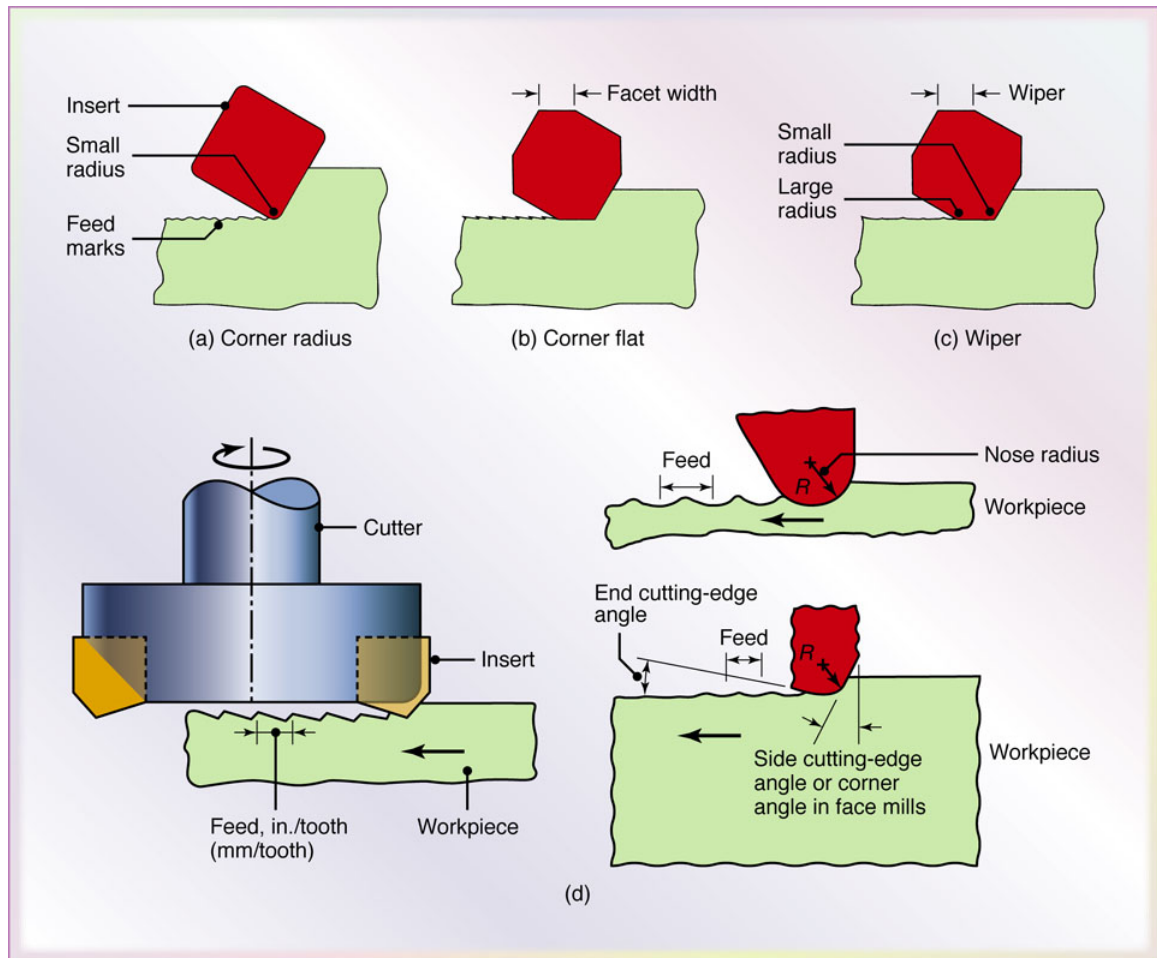


Fig. 3

附件一

【機械製造】

Examination scope

1. Fundamentals of metal casting
2. Metal-casting processes and equipment
3. Metal-forging processes and equipment
4. Machining processes

5. Gear manufacturing

Reference books

1. Manufacturing Engineering & Technology. Manufacturing Engineering and Technology, 7th ed.
S. Kalpakjian and S.R. Schmid.