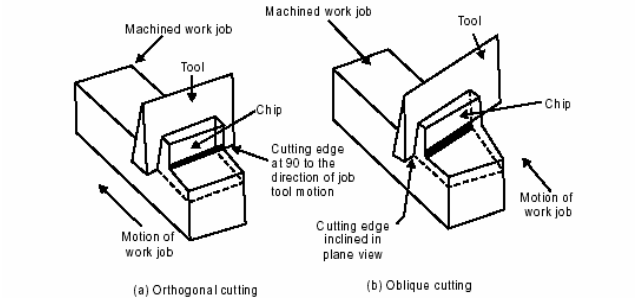
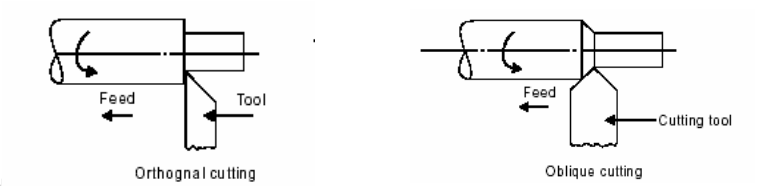
Pemotongan Logam





Alat Potong

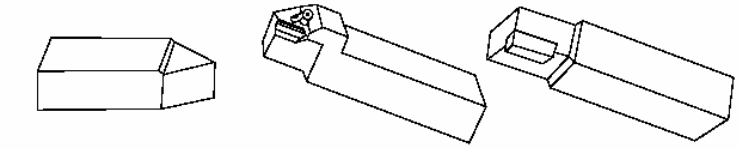


Fig. 20.4 Solid type of single point cutting tool

Fig. 20.5 Tipped type single point cutting tool

Fig. 20.6 Index-able insert type single point cutting tool

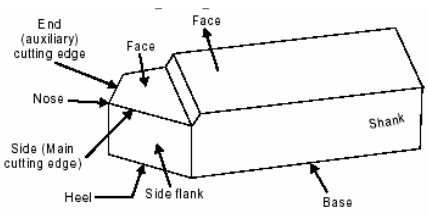


Fig. 20.7 Geometry of single point cutting tool

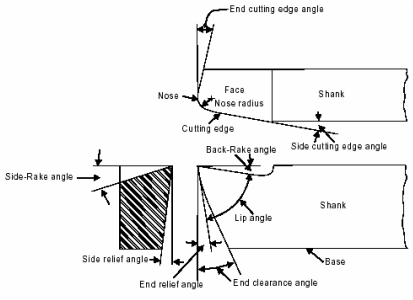
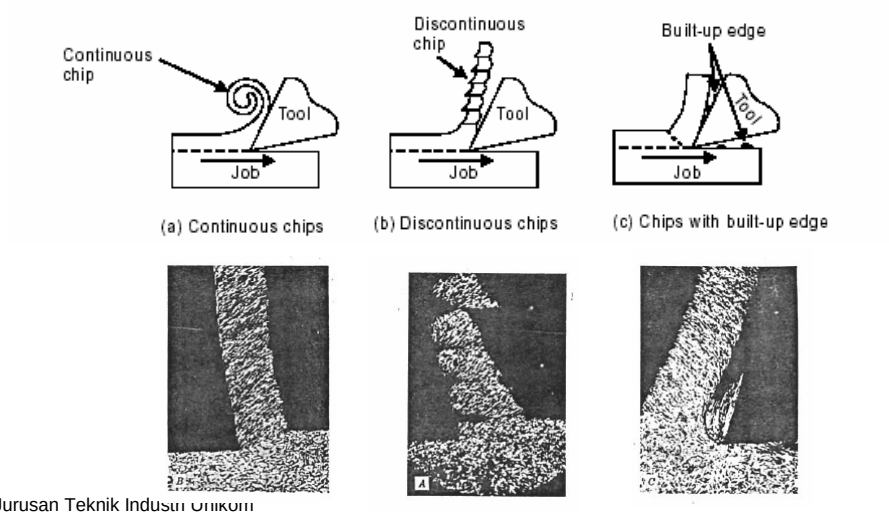
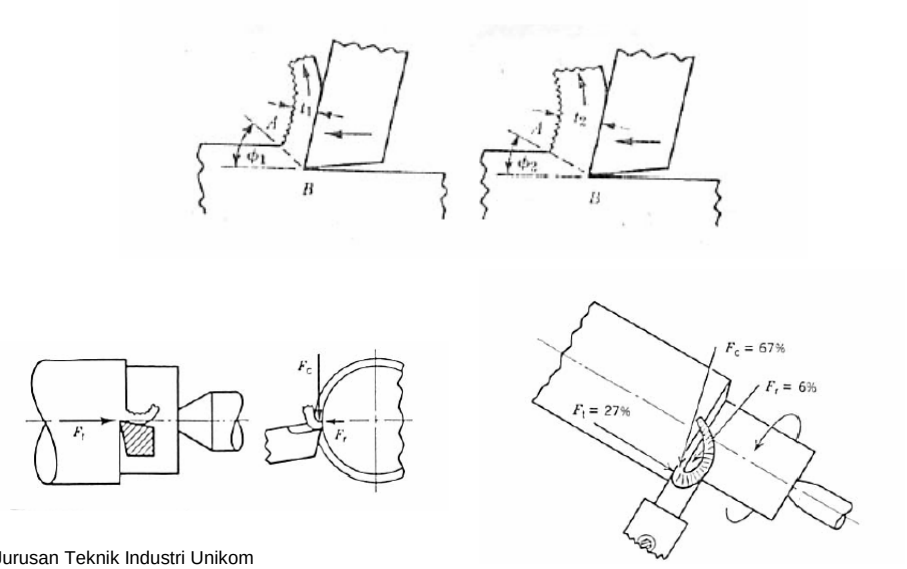


Fig. 20.8 Elements of tool signature or nomenclature of single point tool

Tipe Serpihan (*chips*)



Gaya-gaya Pada Pahat



Cutting Speed and Feed

- Kecepatan potong (*cutting speed*), Cs: laju permukaan benda kerja bergerak melewati pahat

  Cs= (22/7 x D x N)/1000, meter/menit

  D: diameter benda kerja (mm)
  N: putaran (rpm)

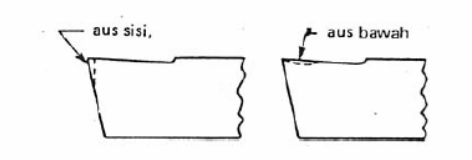
- Dipengaruhi:
  - Jenis material benda kerja
  - Material pahat
  - Bentuk pahat
  - Jenis pendingin (*coolant*)

- Feed: jarak pahat maju ke dalam bendakerja selama 1 putaran dari headstock spindle

Bahan	Baja kecepatan tinggi		Karbida	
	Halus[a]	Kasar[b]	halus[a]	kasar[a]
Baja pemotong bebas, 1112, 1315	75-110	25-45	185-230	110-140
Baja karbon, 1010,1025	70-90	25-40	170-215	90-120
Baja menengah, 1030, 1050	60-85	20-40	140-185	75-110
Baja nikel, 2330	60-85	20-35	130-170	70-100
Chrom nikel, 3120, 5140	45-60	15-25	100-130	55-80
Besi cor kelabu lunak	40-45	25-30	110-140	60-75
Kuningan	85-110	45-70	185-215	120-150
Aluminium	70-110	30-45	140-215	60-90
Plastik	90-150	30-60	120-200	45-75

a = kedalaman pemotongan 0,38 - 2,39 mm. Hantaran 0,13 - 0,38 mm/put
b = kedalaman pemotongan 4,75 - 9,53 mm. Hantaran 0,75 - 1,27 mm/put.

Umur Pahat



$$VT^n = C$$

