

آموزشگاه شهید بهشتی کرج - گروه ماشین ابزار

برابر با سر فصل درسی دوره گردانی ماشین ابزار

# زبان فنی

شناسنامه جزوه

نام جزوه : زبان فنی

نام گردآورنده : گروه ماشین ابزار آموزشکده فنی شهید بهشتی کرج

بر اساس : سر فصل درسی دوره کاردانی ماشین ابزار (۱۳۷۴)

## هدف

در دوره کاردانی گروه مکانیک رشته ساخت و تولید گرایش ماشین ابزار، درسی به نام زبان فنی وجود دارد که ۲ واحد تئوری است و مدت زمان آن ۲ ساعت در هفته می باشد. هدف از گنجاندن این درس در دوره کاردانی ماشین ابزار در سرفصل درسها به قرار زیر بیان شده است :

فراگیر پس از پایان این درس، ضمن یادگیری ۵۰۰ لغت فنی و اصطلاحات و علائم مربوط به تخصص خود بتواند متون فنی را ترجمه نماید.

برابر با سرفصل پس از پایان این درس از فراگیر انتظار می رود که :

۱) کلمه ها و اصطلاحات فنی در مورد ساخت و تولید قطعه های صنعتی را بیان نماید.

۲) کتاب کار مربوط به دستگاه ها را ترجمه نماید.

۳) متنهای مربوط به روشهای تولید را ترجمه نماید.

۴) متنهای مربوط به نقشه کشی صنعتی را ترجمه نماید.

۵) متنهای مربوط به قالب سازی را ترجمه نماید.

۶) کنترل کیفیت مواد تولید شده را به زبان خارجی توضیح دهد.

۷) نشانه ها و اصطلاحات مربوط به رایانه را به زبان خارجی بیان کند.

## ساعتهای تدریس و مقدار نمره هر بخش، برابر با سرفصل

جلسه	نمره	سرفصل	ریز مطالب	نظری	عملی
۱ ۲	۲/۵	کلمه ها و اصطلاحات فنی در مورد ساخت و تولید قطعه های صنعتی را بیان نماید.	بررسی کلمه ها و اصطلاحات مربوط به ساخت و تولید قطعه های صنعتی	۴	-
۳ ۴	۲/۵	کتاب کار مربوط به دستگاهها را ترجمه نماید.	بررسی چند کتاب کار در ارتباط با رشته	۴	-
۵ ۶ ۷	۳/۵	متنهای مربوط به روشهای تولید را ترجمه نماید.	بررسی متنهای مربوط به روشهای تولید	۶	-
۸ ۹ ۱۰	۳/۵	متنهای مربوط به نقشه کشی صنعتی را ترجمه نماید.	بررسی متنهای مربوط به نقشه کشی صنعتی	۶	-
۱۱ ۱۲ ۱۳	۳/۵	متنهای مربوط به قالب سازی را ترجمه نماید.	بررسی متنهای مربوط به قالب سازی	۶	-
۱۴ ۱۵ ۱۶	۳/۵	کنترل کیفیت مواد تولید شده را به زبان خارجی توضیح دهد.	بررسی متنهای مربوط به کنترل کیفیت	۶	-
۱۷	۱	نشانه ها و اصطلاحات مربوط به رایانه را به زبان خارجی بیان کند.	استفاده از رایانه در صنایع	۲	-
۱۷	۲۰	جمع		۳۴	-



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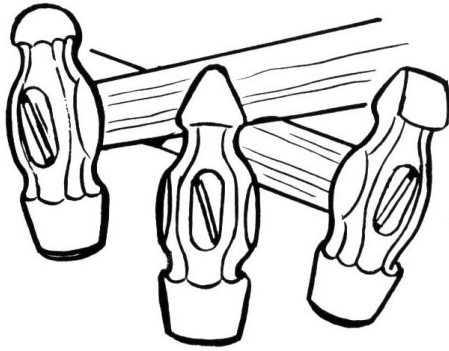
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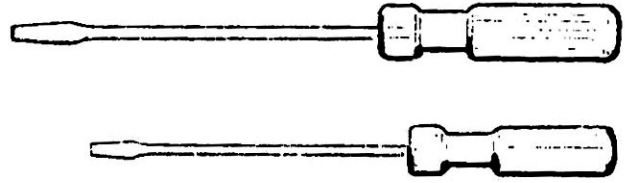
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# Vocabulary 1

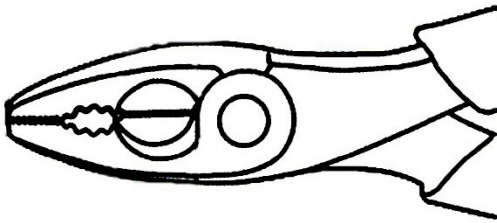
## 1. General Tools



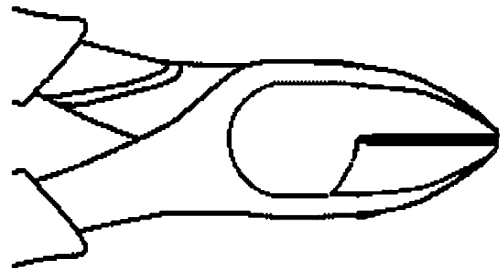
**Hammer**



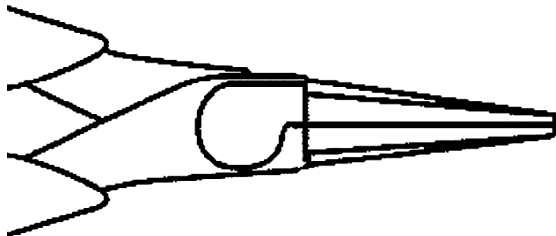
**Screw driver**



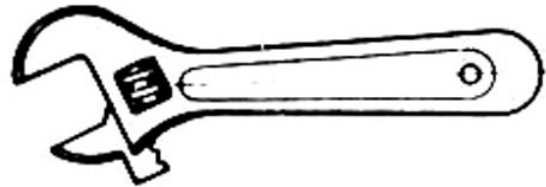
**Pliers**



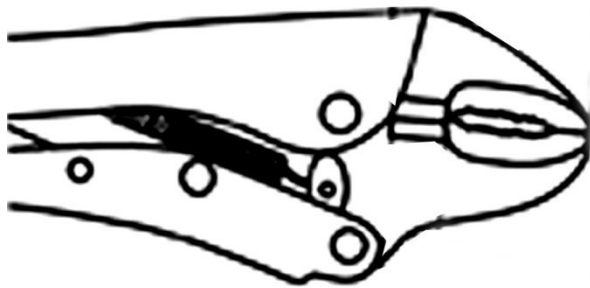
**Plier**



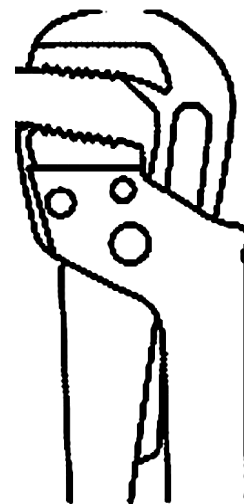
**Nose pliers**



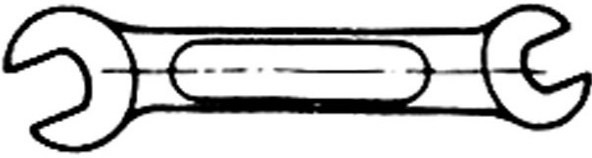
**Adjustable wrench**



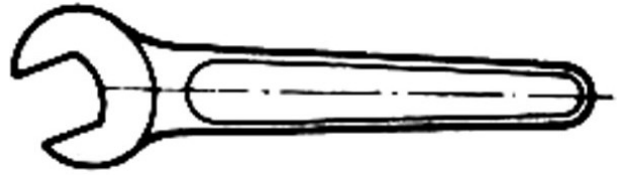
**Lock grip pliers**



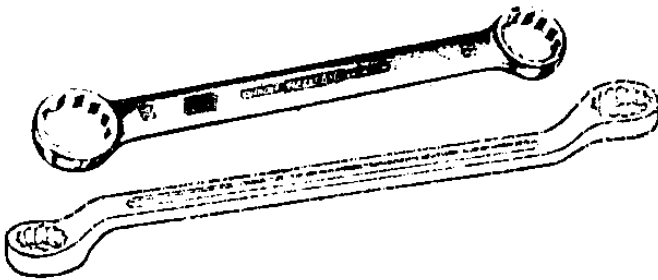
**Pipe wrench**



Open-end wrench (double head)



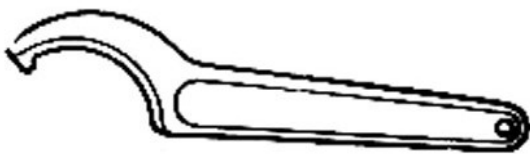
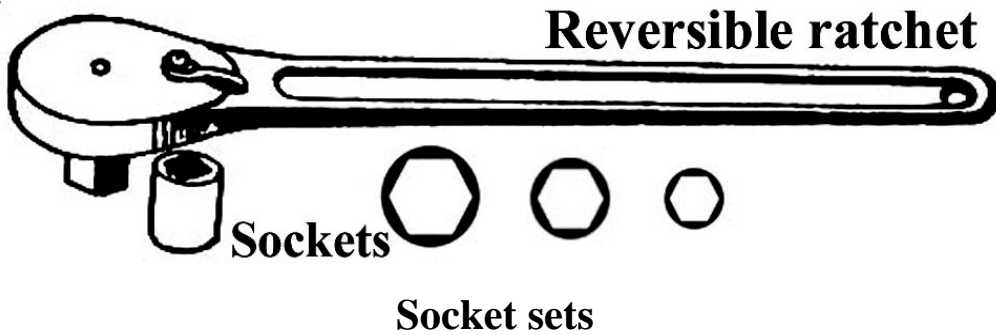
Open-end wrench (single head)



Box wrench (Double-head)



Allen wrench

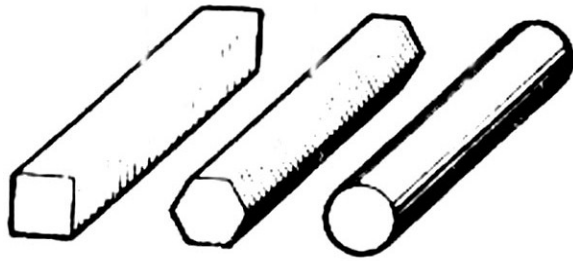


Hook spanner

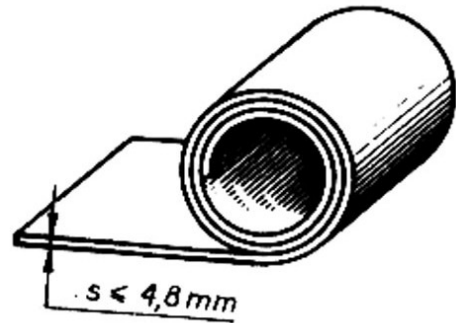


Pin-face wrench

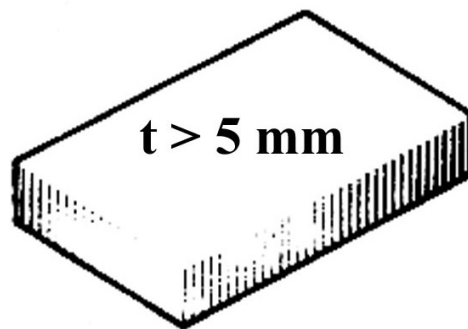
## 2. Stock



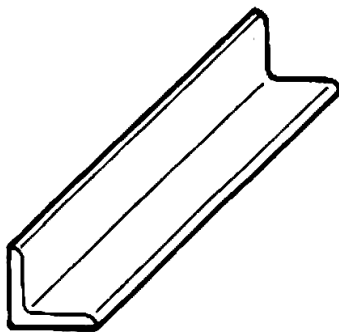
Bar



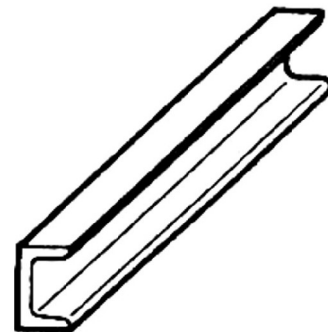
Sheet



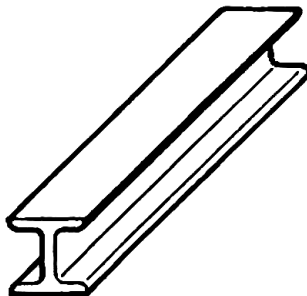
Slab



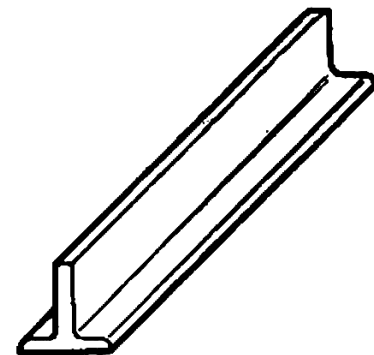
Angle iron



Channel



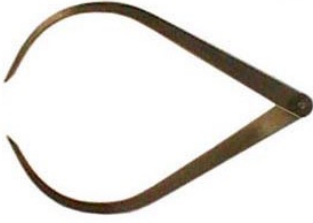
I-beam girder



Tee beam



### 3.Metrology



Outside Calipers



Inside Calipers



Vernier Calipers



Vernier Height Gauge



Outside Micrometer



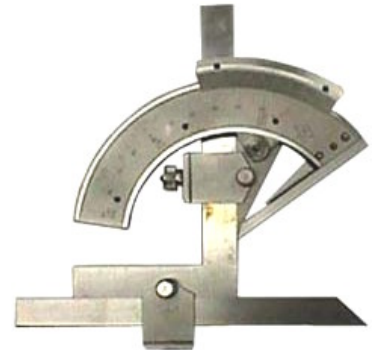
Inside Micrometer



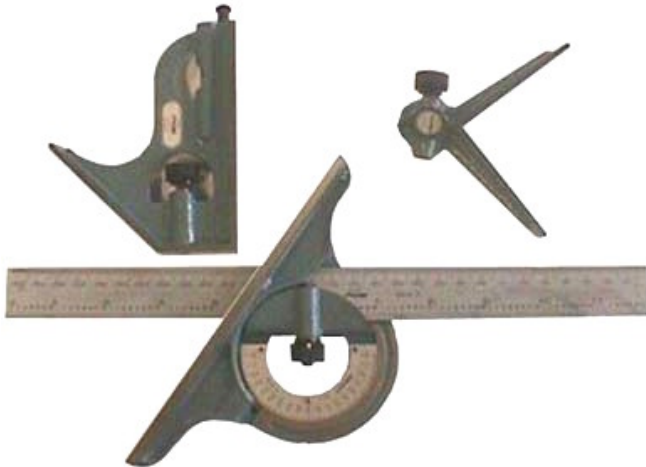
Depth Micrometer



Engineer's Protractor



Vernier Protractor



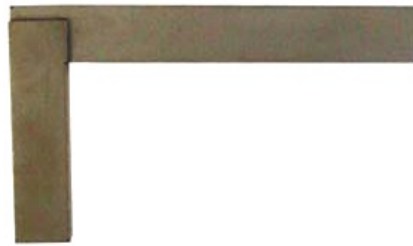
Combination Set



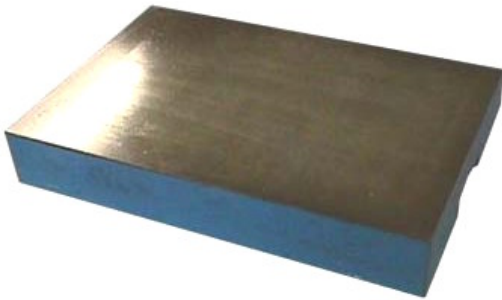
Dial Indicator



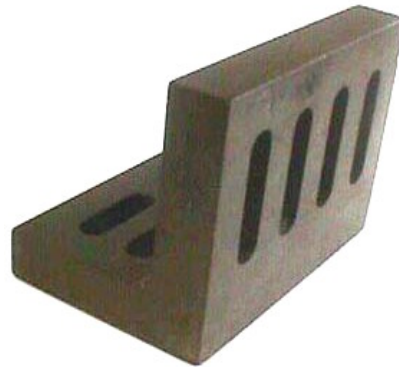
Spring Dividers



Engineering Square



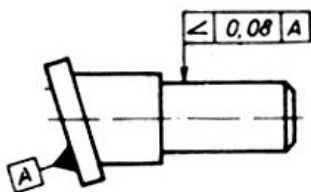
Surface Plate



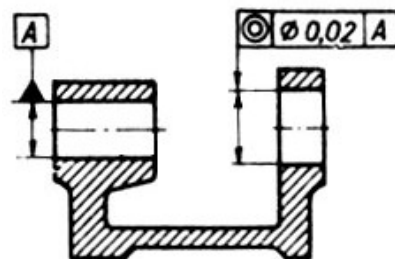
Angle Plate



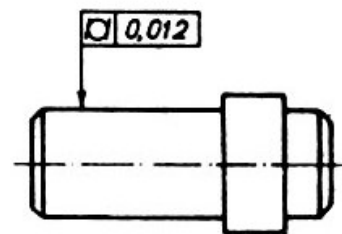
Vee Block



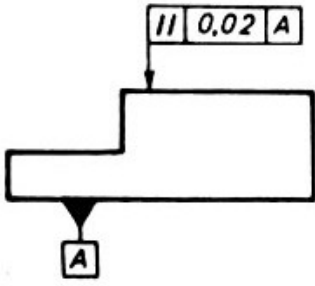
Angularity tolerance



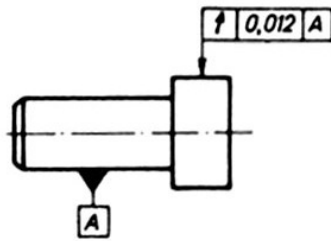
Coaxiality tolerance



Cylindricity



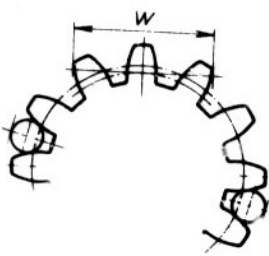
Parallelism tolerance



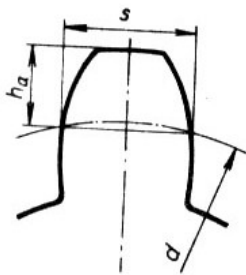
Radial run out tolerance



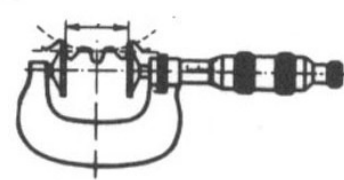
Radial run out



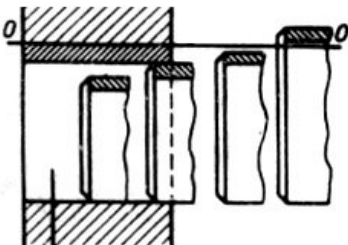
Base tangent length



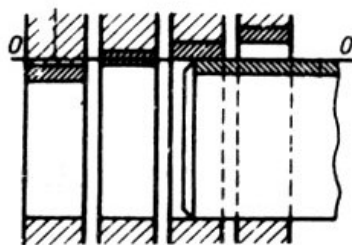
Chordal thickness of teeth



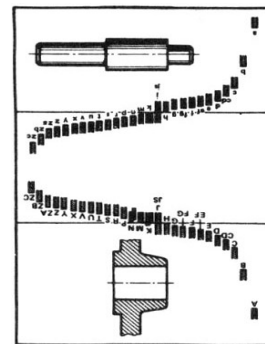
Micrometer for span measurement



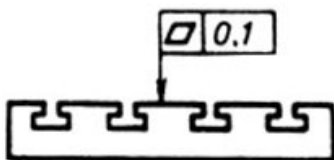
Basic-hole system



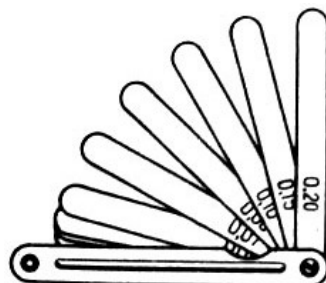
Basic-shaft system



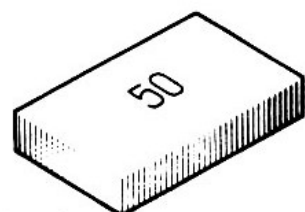
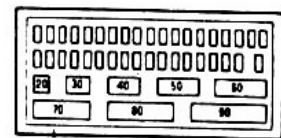
ISO system of limits and tolerances



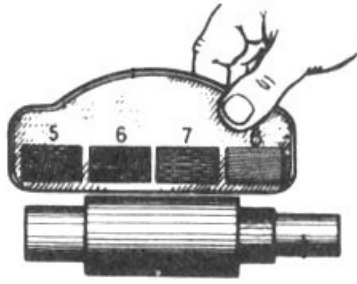
Flatness tolerance



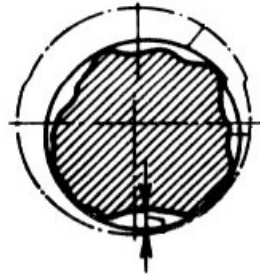
Feeler gauge



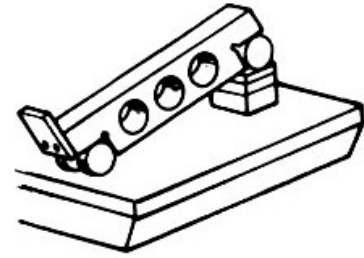
Gauge block



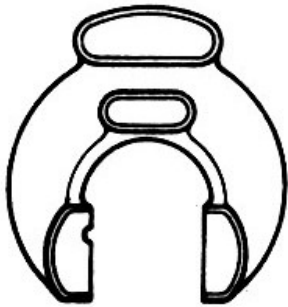
Roughness comparison specimen



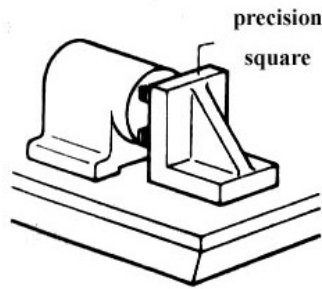
Roundness



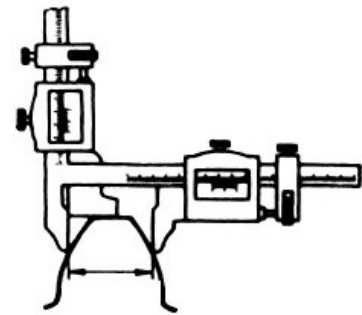
Sine bar



Snap gauge



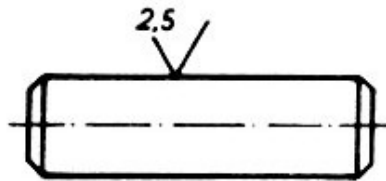
precision square



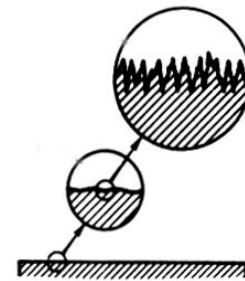
Vernier gear-tooth caliper



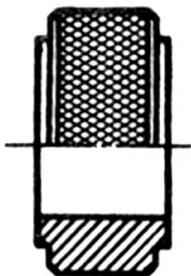
Thread plug gauge



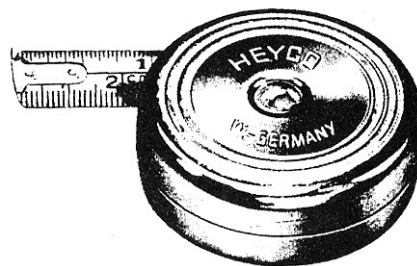
Surface roughness symbol



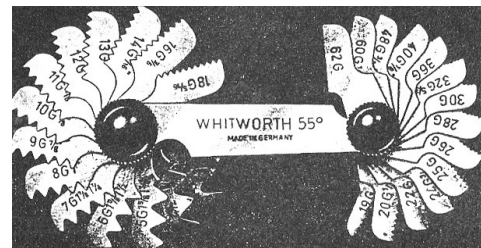
Surface irregularities



Ring gauge



Measuring tape

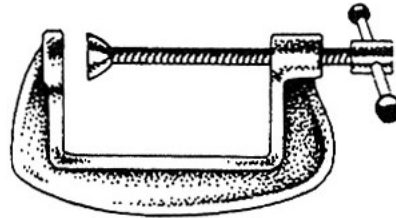


Screw pitch gauge

## 4. Bench working & other tools



Bench vice



Clamp



File



Hand File



Flat File



Half-round File



Round File



Square File



Three Square File



Hacksaw



Hacksaw Blade



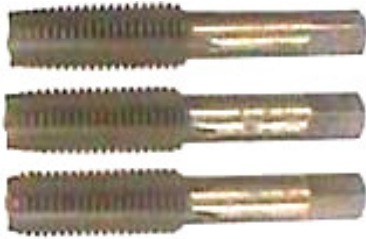
Counterbore Drill



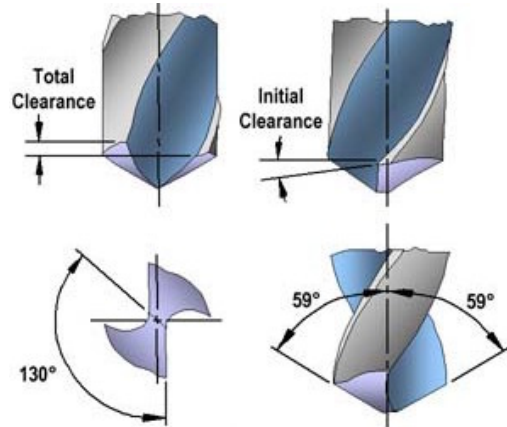
Countersink Drill



Hand Reamer



Tap



Drill Features



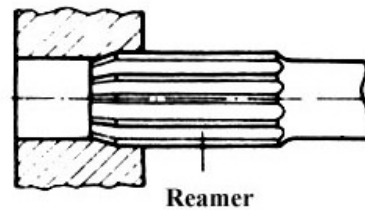
Tap Wrench



Hand Stock (die holder)



Threading Die



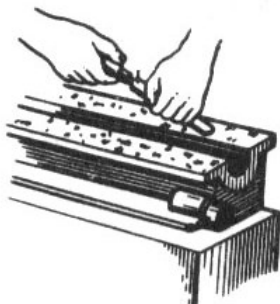
Reamering



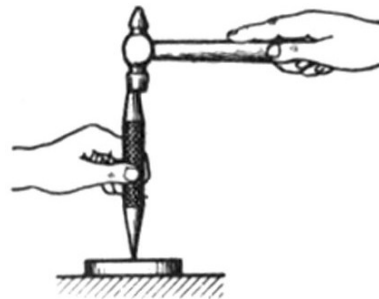
Scriber



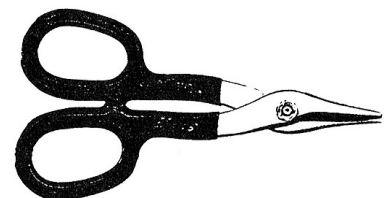
Punch



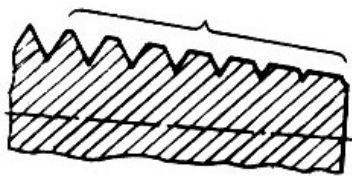
Scraping



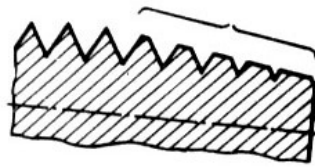
Punching



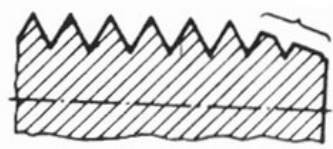
Shear



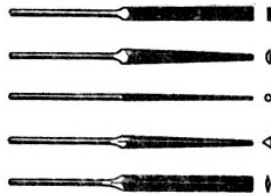
Taper tap



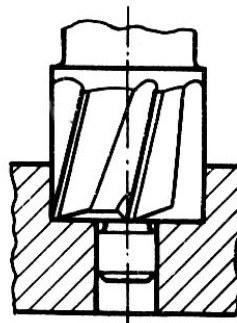
Plug tap



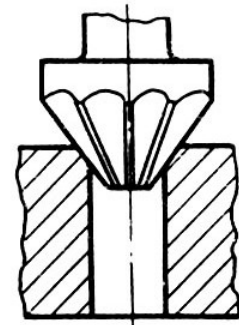
Bottoming tap



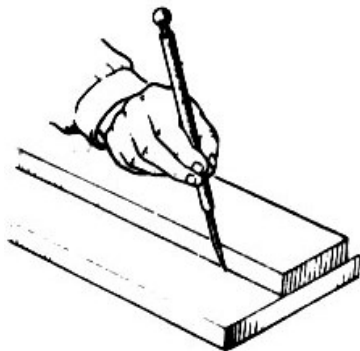
Needle file



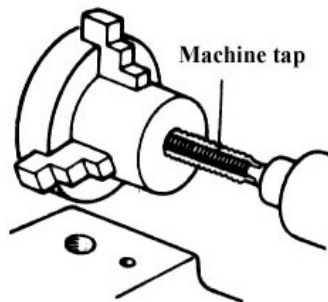
Counterboring



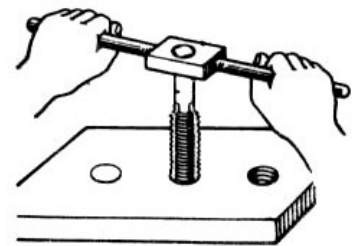
Countersinking



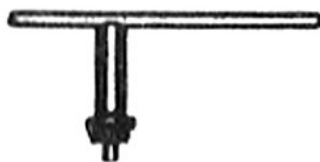
Laying out



Machine tap



Hand tap



Chuck key

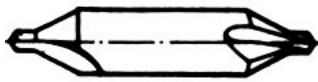
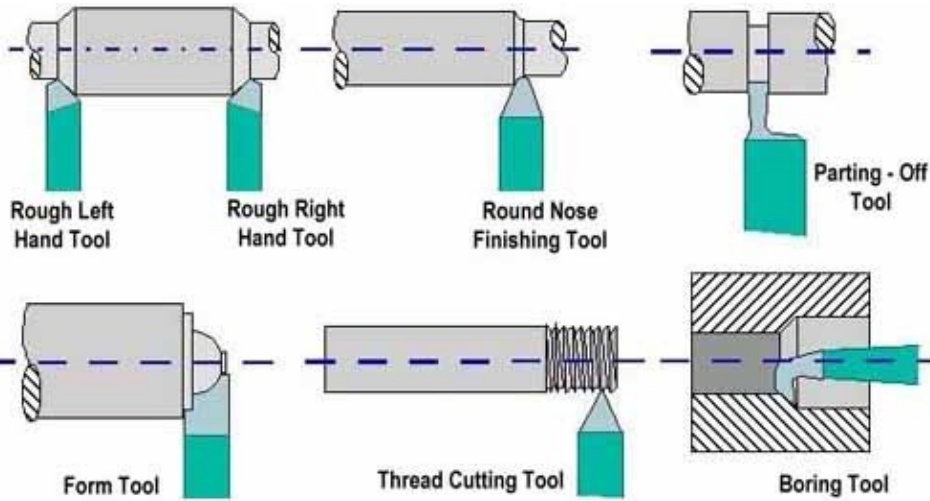


Oil can

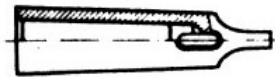


Steel wire brush

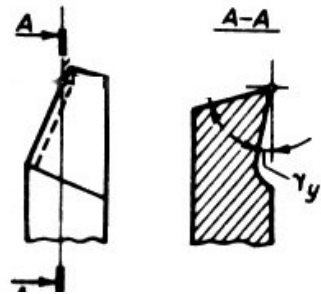
## 5. Turning



Center drill



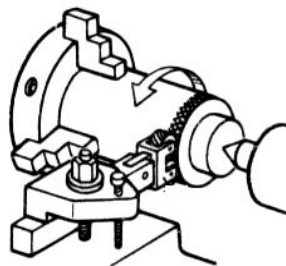
Adapter sleeve



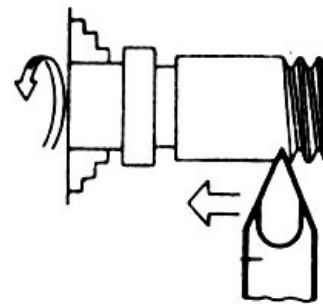
Back rake (in cutting tool)



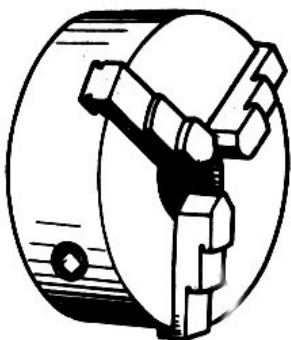
Boring



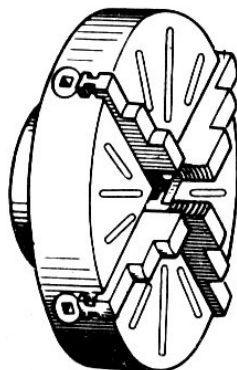
knurling



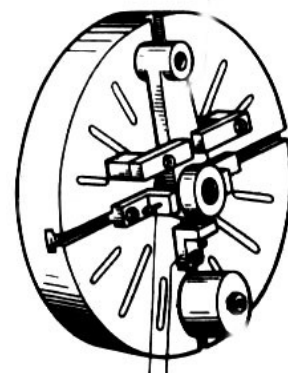
Thread cutting



Three-jaw chuck

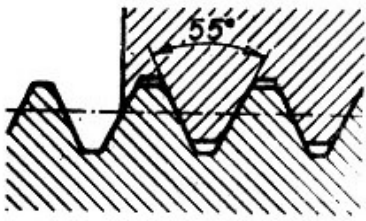


Four-jaw chuck

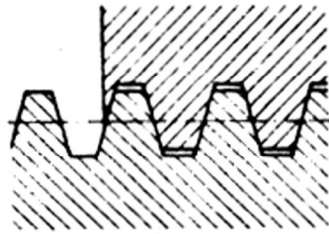


Face plate

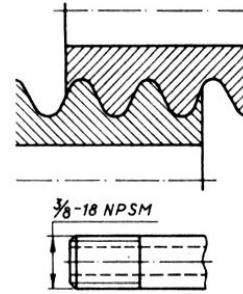




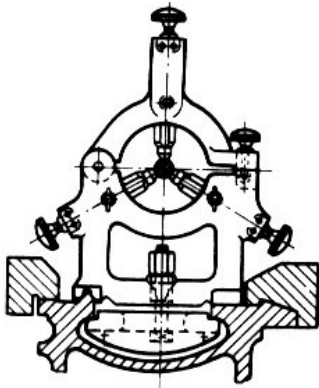
Whitworth thread



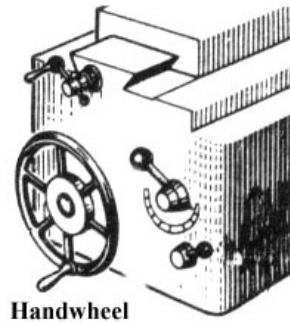
Acme thread



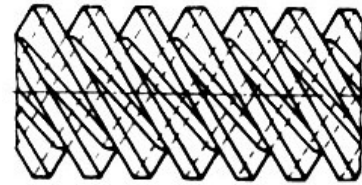
Pipe thread



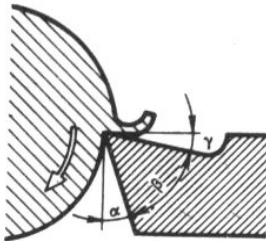
Steady rest



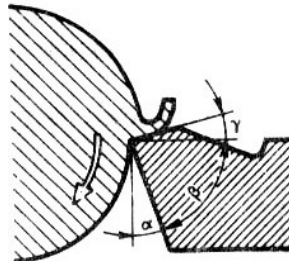
Handwheel



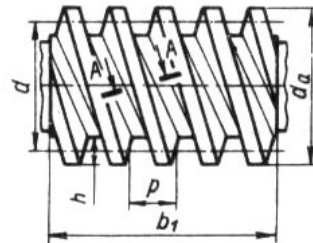
Multiple-start thread



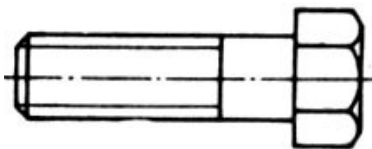
Positive rake



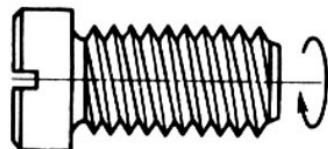
Negative rake



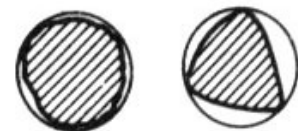
Cylindrical worm



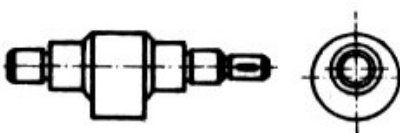
Hexagonal head screw



Right-hand thread



Lobing



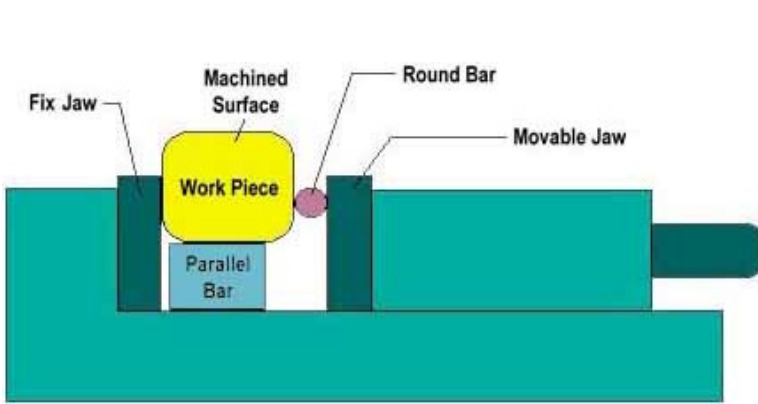
Eccentric shaft



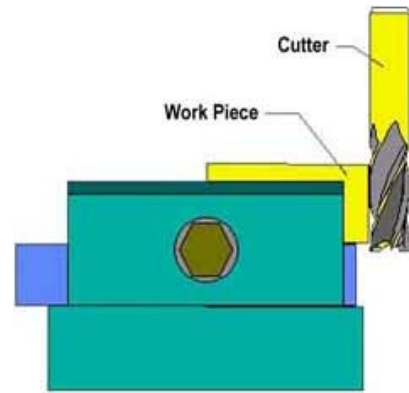
Sliding guideway

Sliding guide way

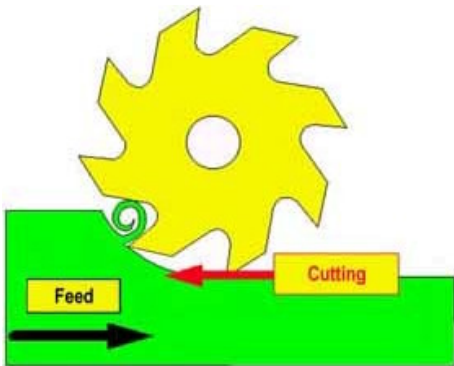
# 6.Milling



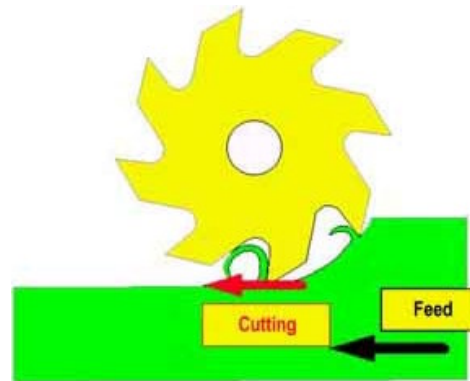
Holding Method by Using a Machine vice



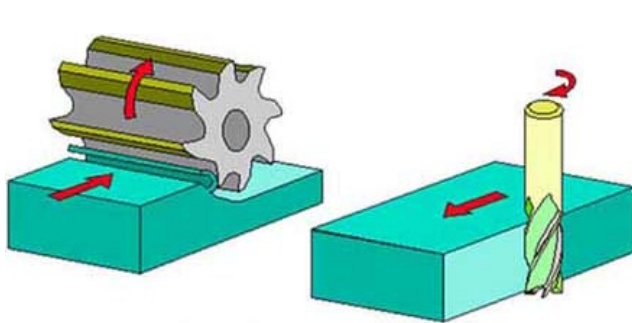
End Surface Milling



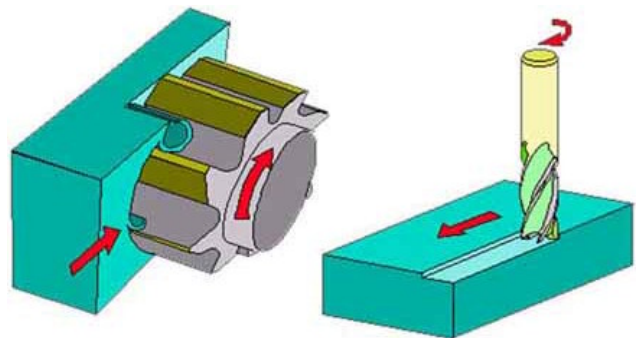
Up Cut Milling



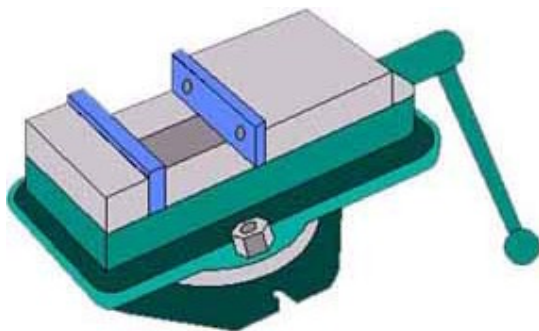
Down (Climb) Cut Milling



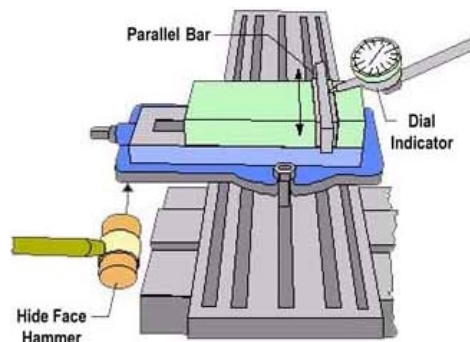
Plain Milling



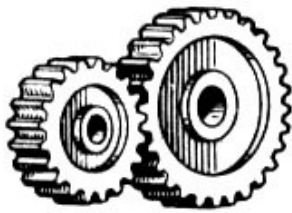
End Milling



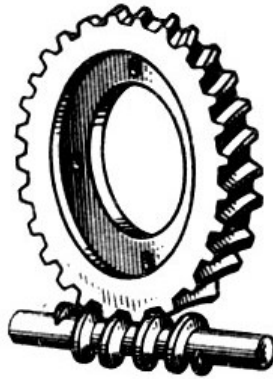
Machine vice



Machine vice Set-up



External gearing



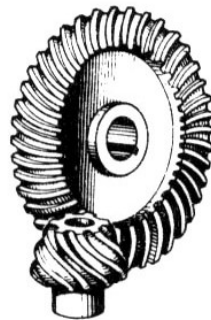
Worm gearing



Worm



Helical gearing

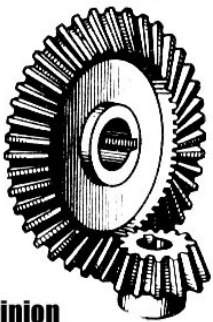


Hypoid gearing



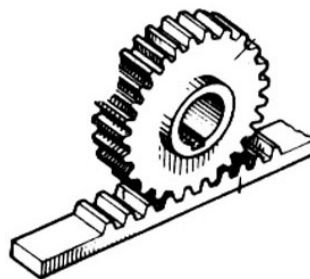
Herringbone gear

Crown wheel



Pinion

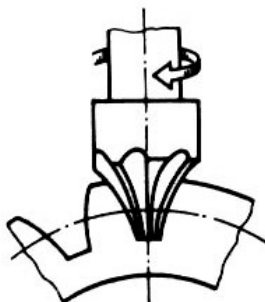
Bevel gear



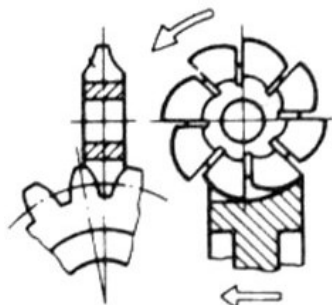
Rack and pinion



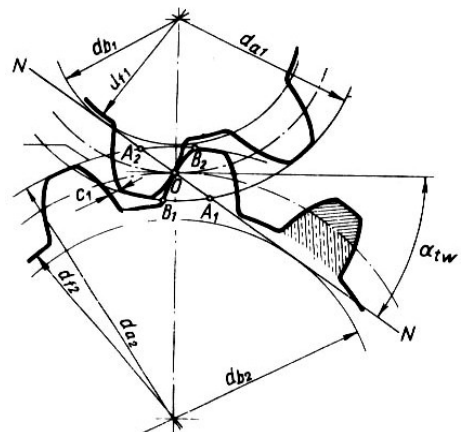
Cam



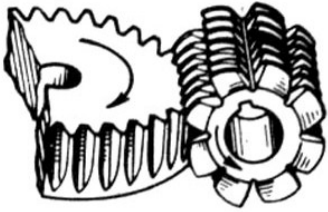
Involute end mill



Involute slide milling cutter

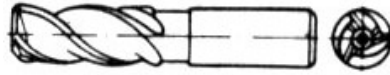


Involute tooth system

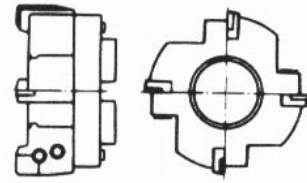


Gear hob

Gear hob



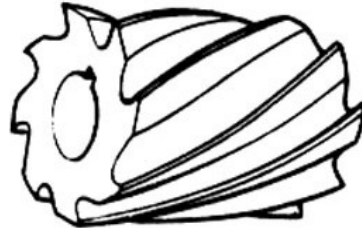
End mill



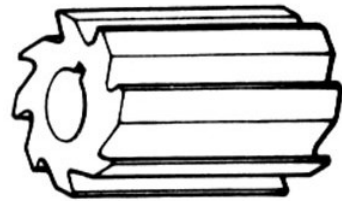
Face milling cutter



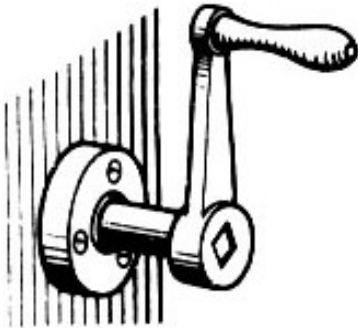
Right-hand milling cutter



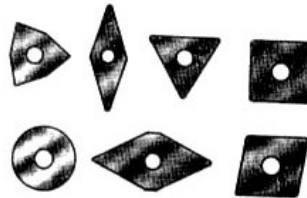
Left-hand milling cutter



Plain milling cutter



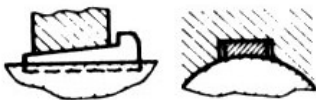
Crank handle



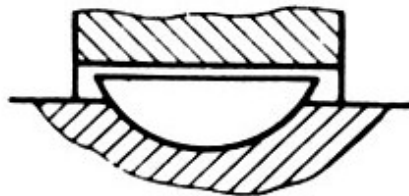
Insert



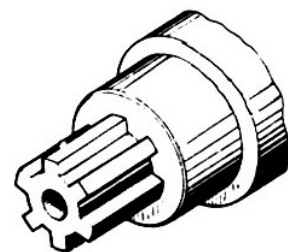
Dovetail guide way



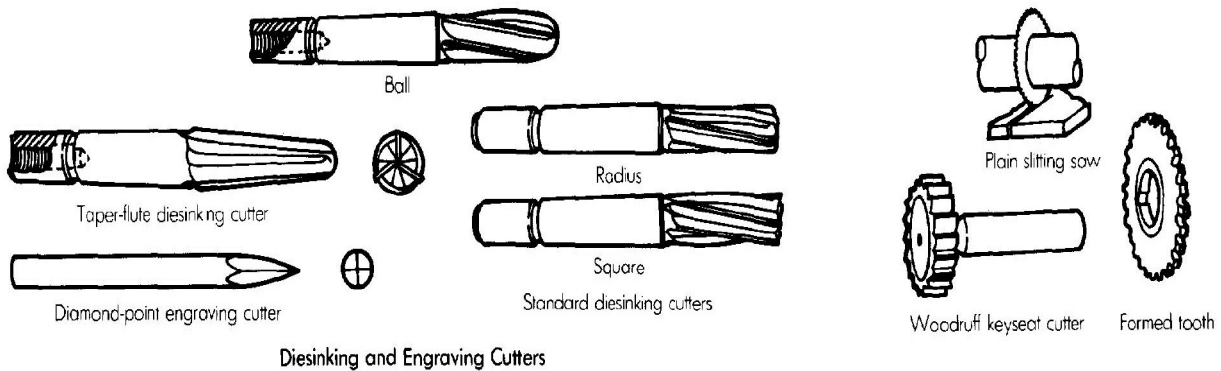
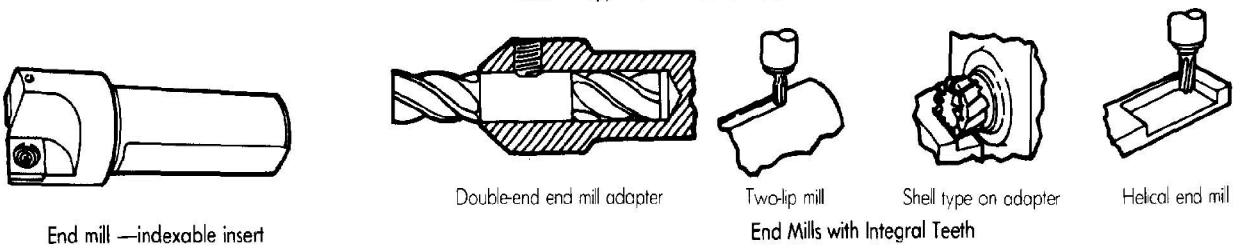
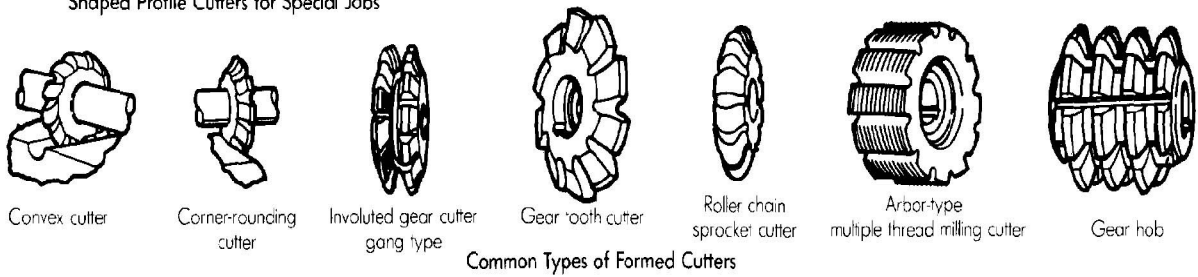
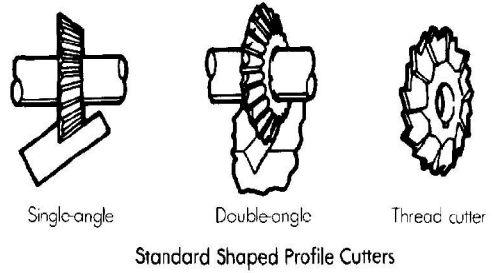
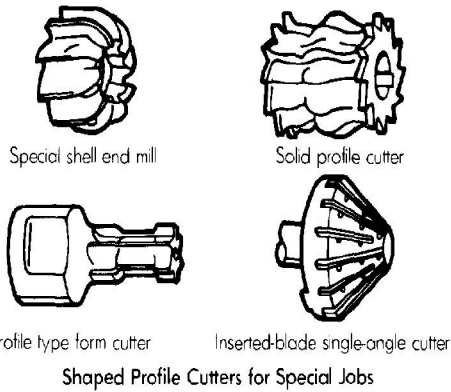
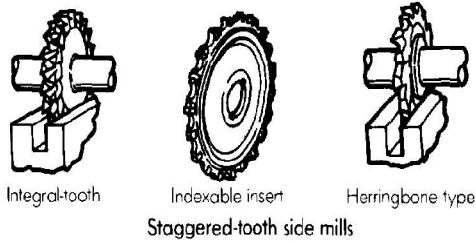
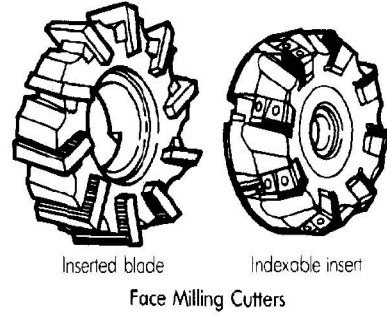
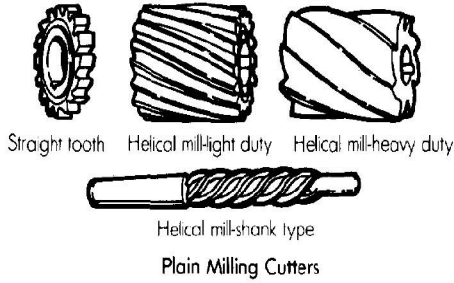
Saddle key



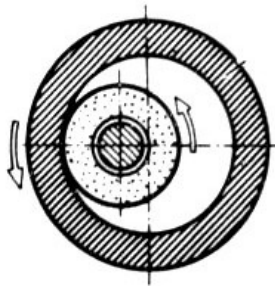
Woodruff key



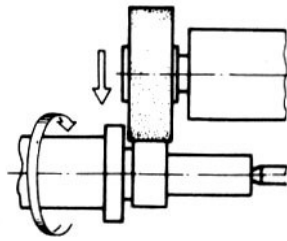
Spline joint



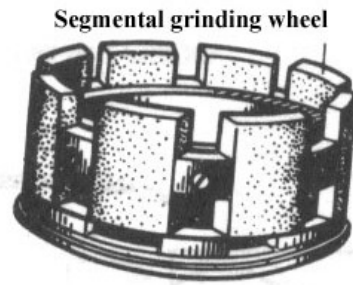
### 7.And ...



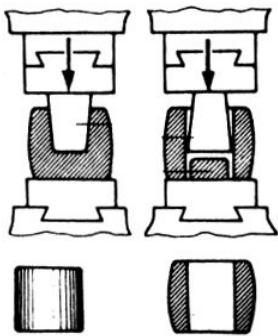
internal grinding



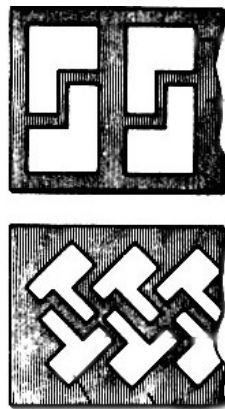
Plunge grinding



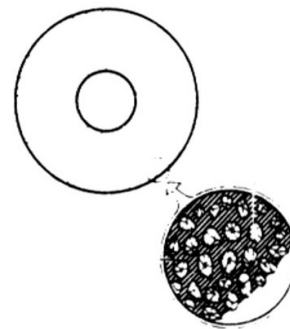
Segmental grinding wheel



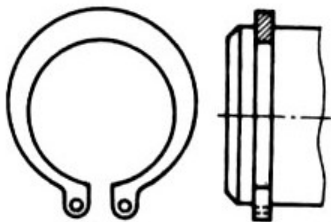
Piercing



Stock lay-out



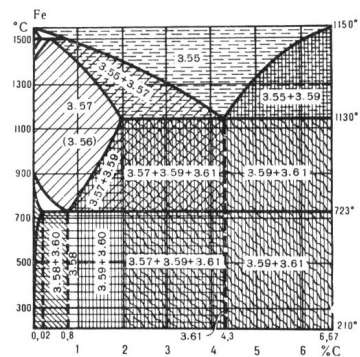
Abrasive



Retaining ring



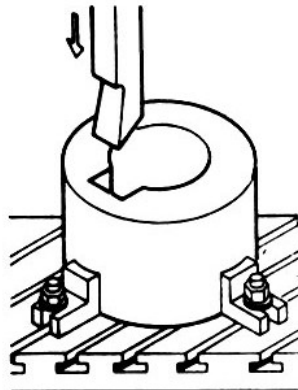
Rotary file



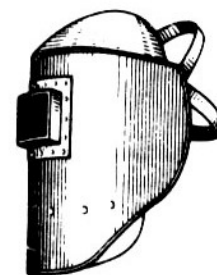
Iron-carbon diagram



Ball bearing



Slotting



Helmet

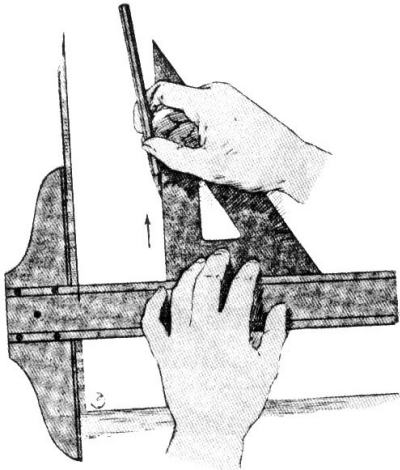
Shahid Beheshti high training center  
Homework –Vocabulary 1

First & last name:

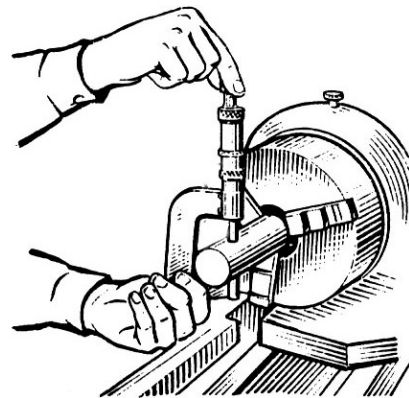
Date:

Match the figures with their names.

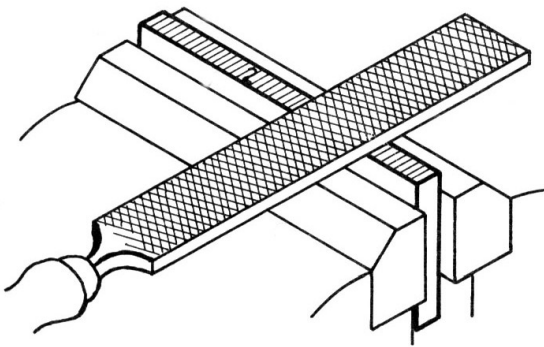
Filing-grinding-milling-turning-welding-sawing-tapping-drawing-hobbing-  
honning-measuring-drilling-shaping-broaching-boring-planing-reaming-lapping  
-Die threading



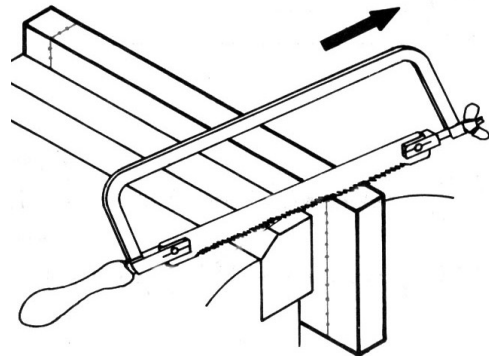
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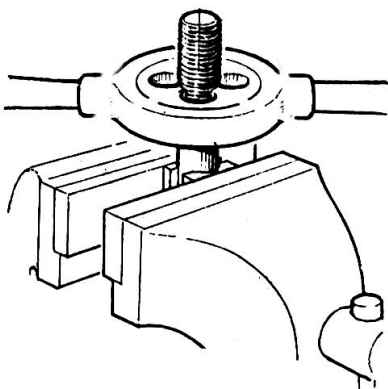
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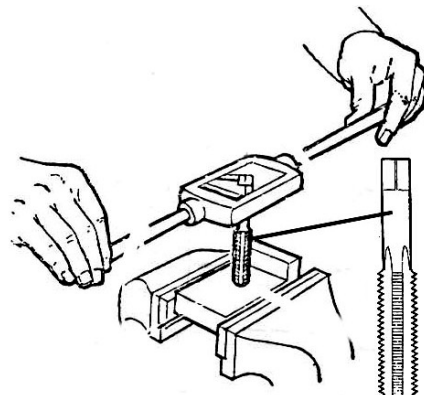
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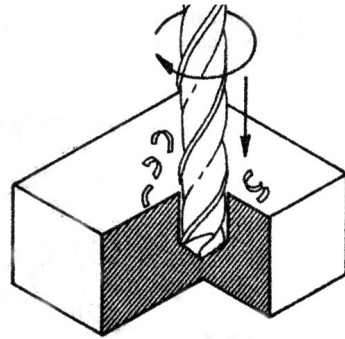
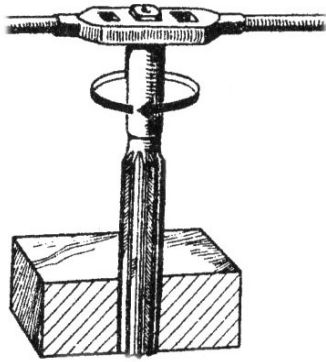


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Shahid Beheshti high training center  
Homework – Vocabulary 1

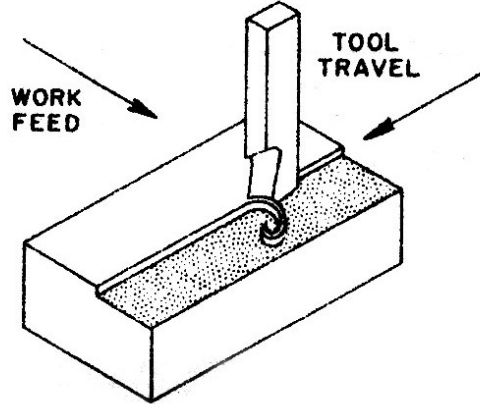
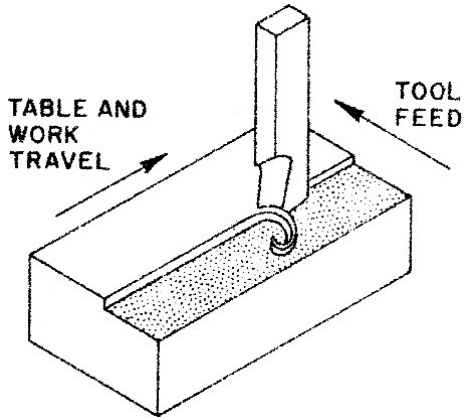
First & last name:

Date:



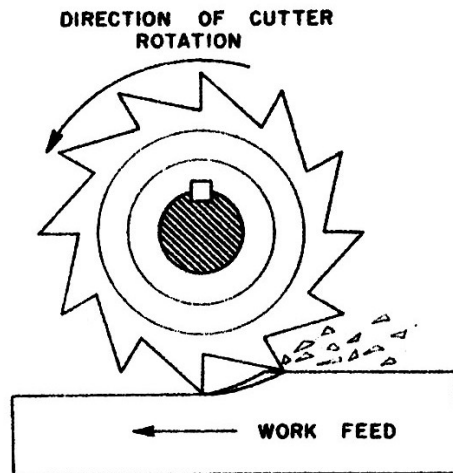
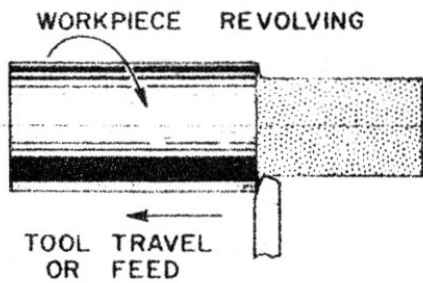
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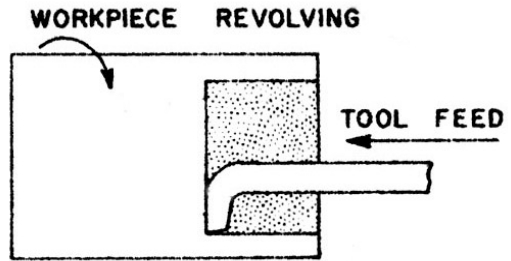
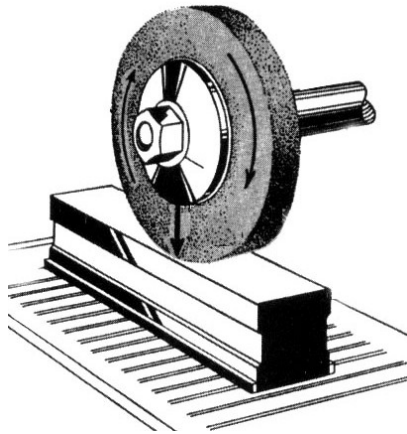
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**Shahid Beheshti high training center**  
**Homework –Vocabulary 1**

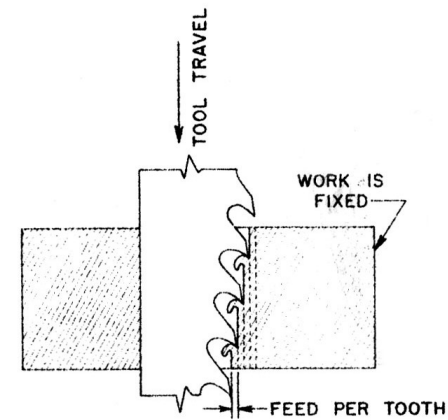
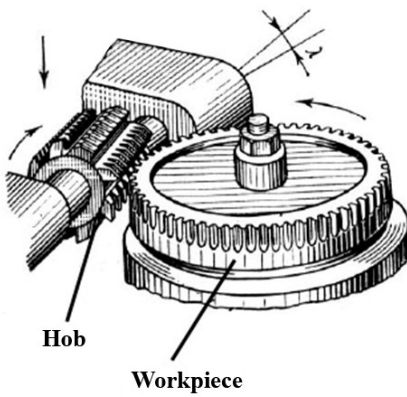
**First & last name:**

**Date:**



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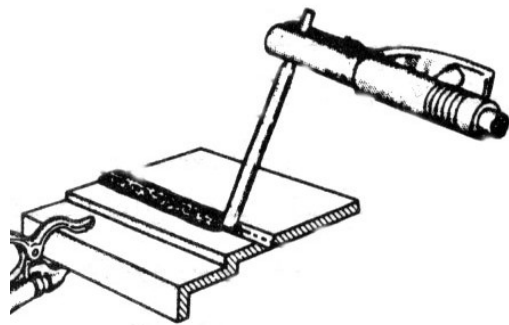
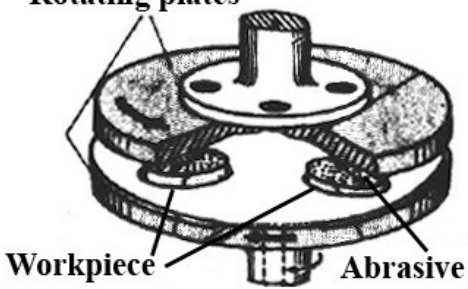
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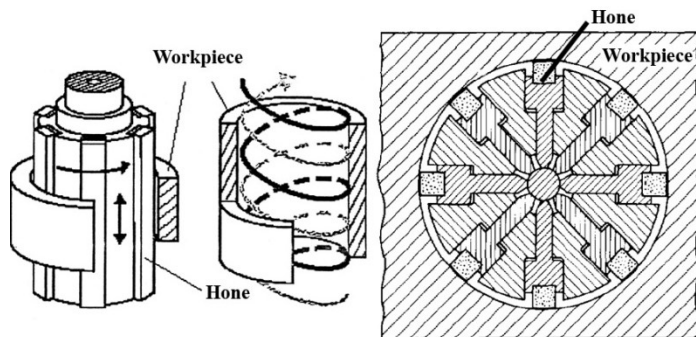
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**Rotating plates**



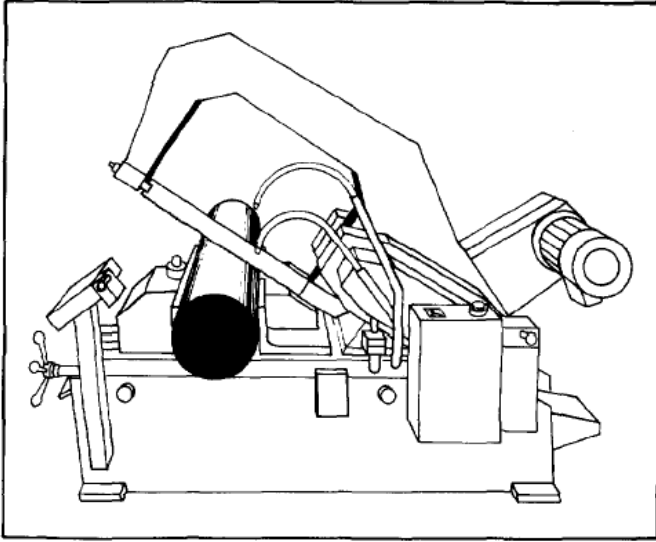
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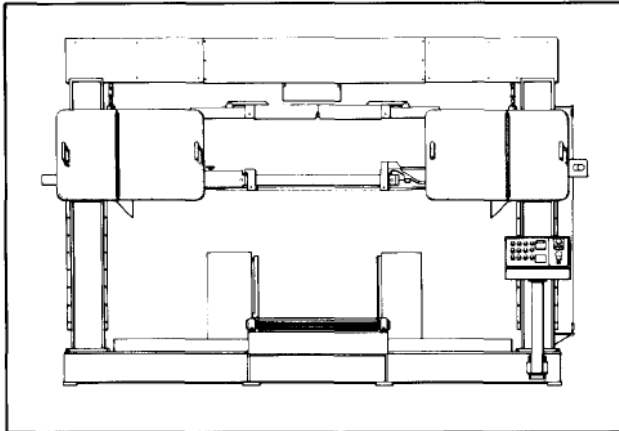


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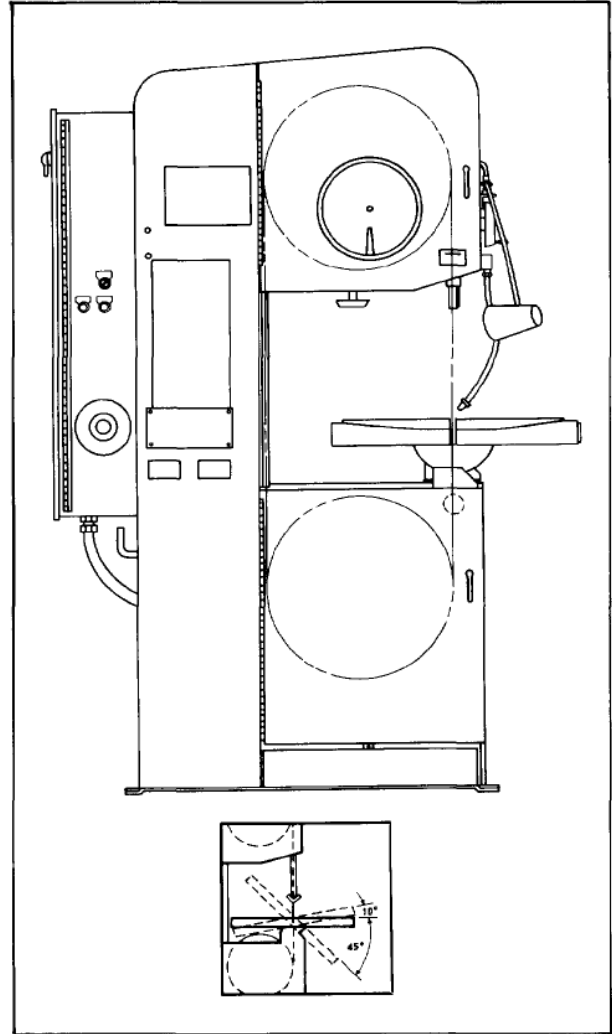
## Vocabulary 2 Machine tools



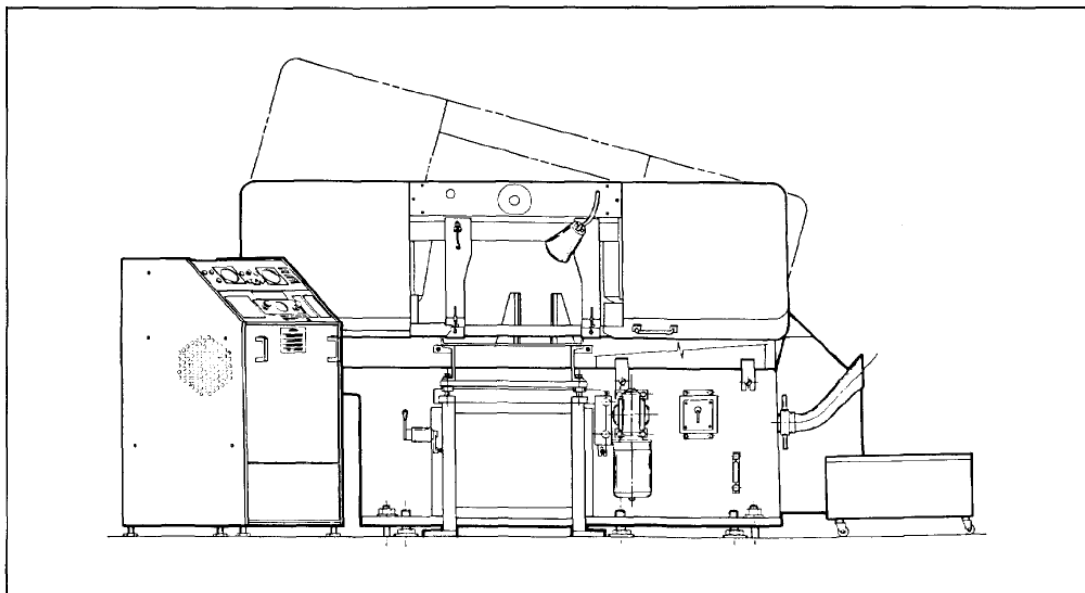
1 Hinge or scissor-type horizontal hacksawing machine with arc-shaped, push-stroke cutting. (Kasto-Racine, Inc.)



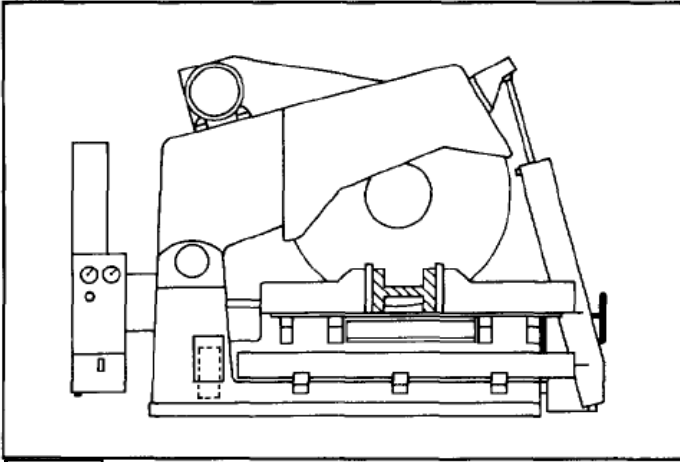
2 Box structure or cylindrical column construction used for some larger horizontal bandsawing machines. (DoALL Co.)



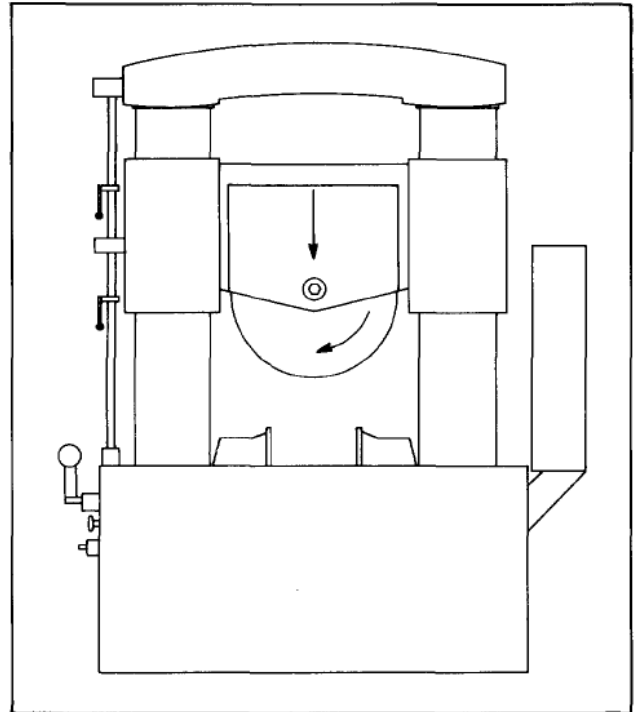
3 Fixed-table, contour-type bandsawing machine which usually has a table that can be tilted above and below horizontal. (DoALL Co.)



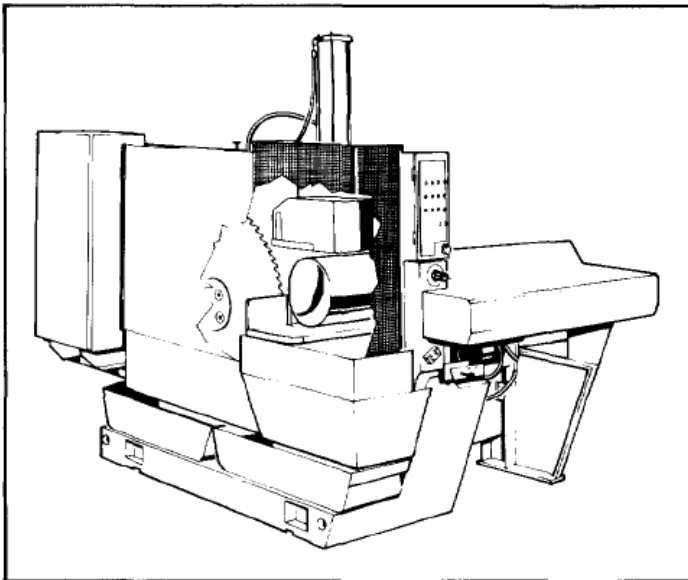
4 Hinged or scissor-type construction, often used for smaller cutoff versions of horizontal bandsawing machines. (Armstrong-Blum Mfg. Co.)



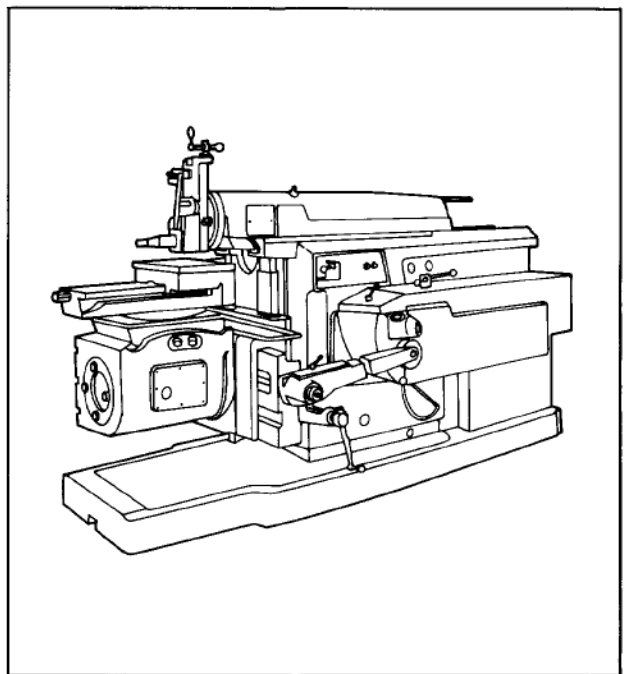
5 Vertical pivot-arm circular sawing machine used extensively for cutting structural shapes. (Kaltenbach, Inc.)



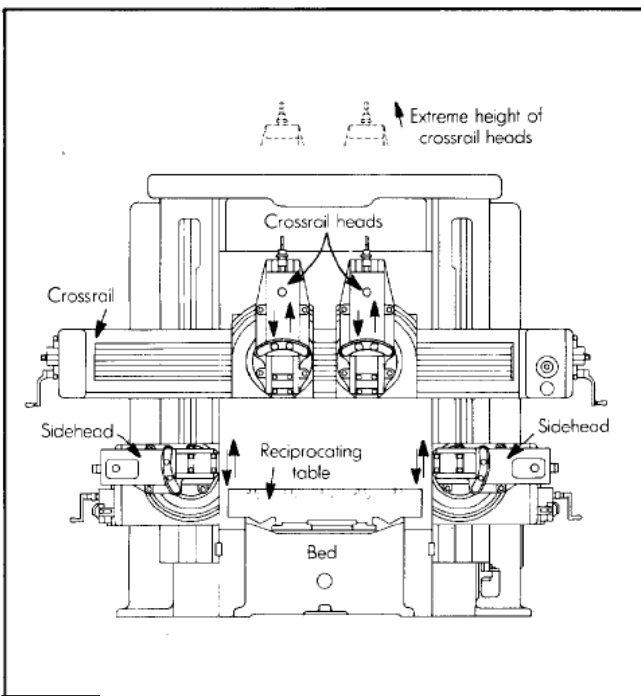
6 Vertical-column circular sawing machine on which the rotating blade moves down in a straight line.



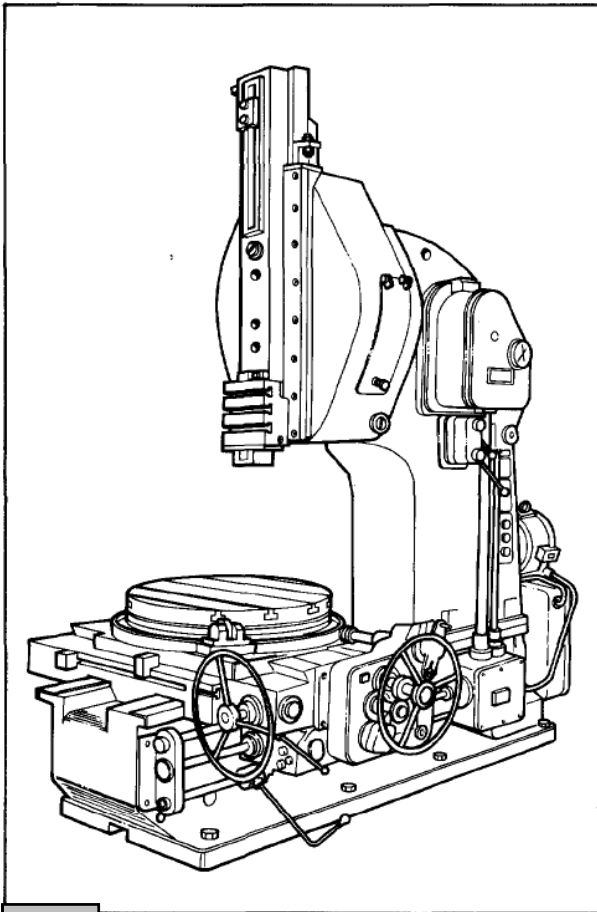
7 Horizontal-travel circular sawing machine on which the rotating blade is pushed into the work from the side. (Wagner/Klingehofer Corp.)



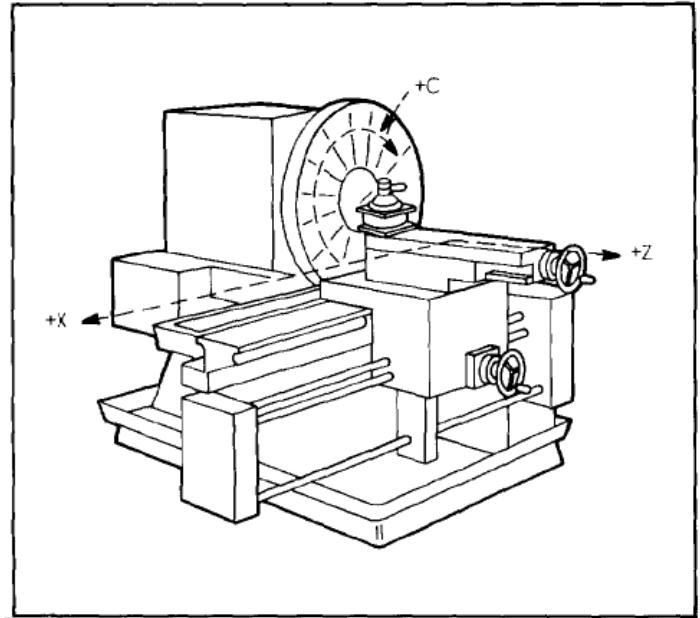
8 Typical horizontal crank-operated push-cut shaper.



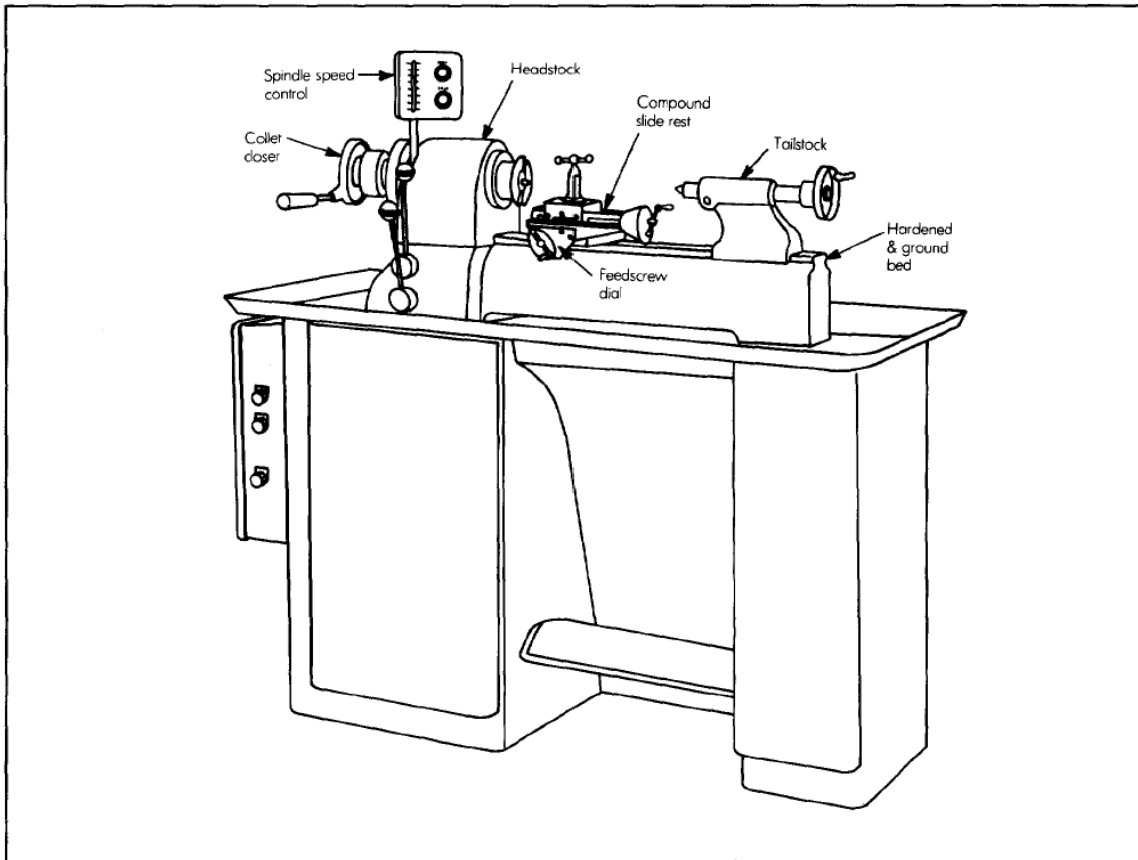
9 Double-housing planer having two heads on the crossrail and one sidehead on each housing.



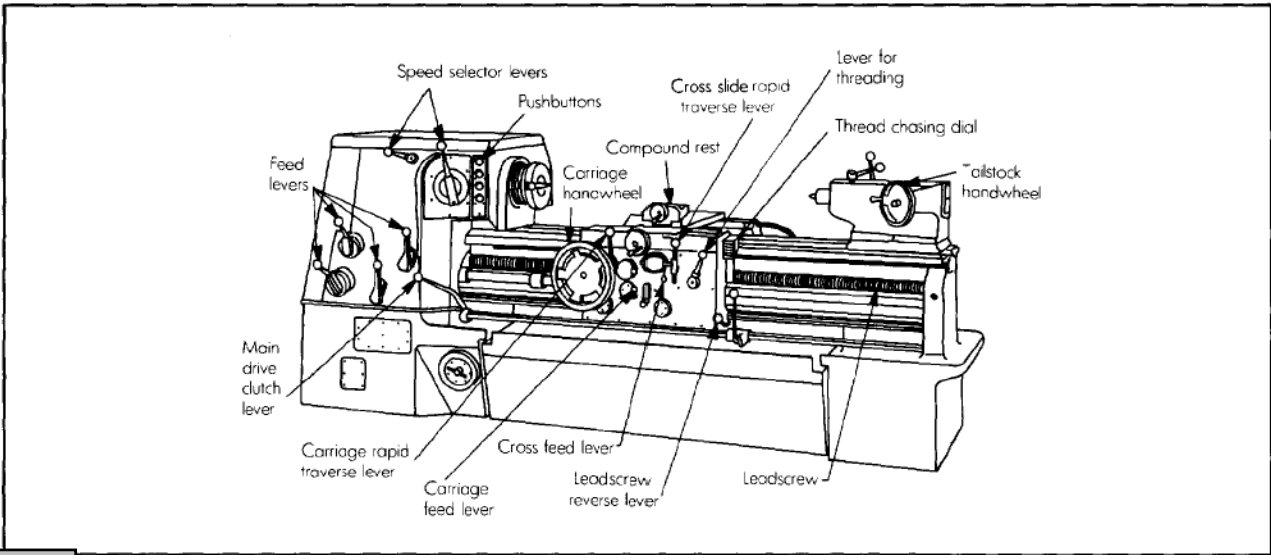
11 Vertical slotting machine equipped with a compound pivoting ram. (Cooper Engineering Ltd.)



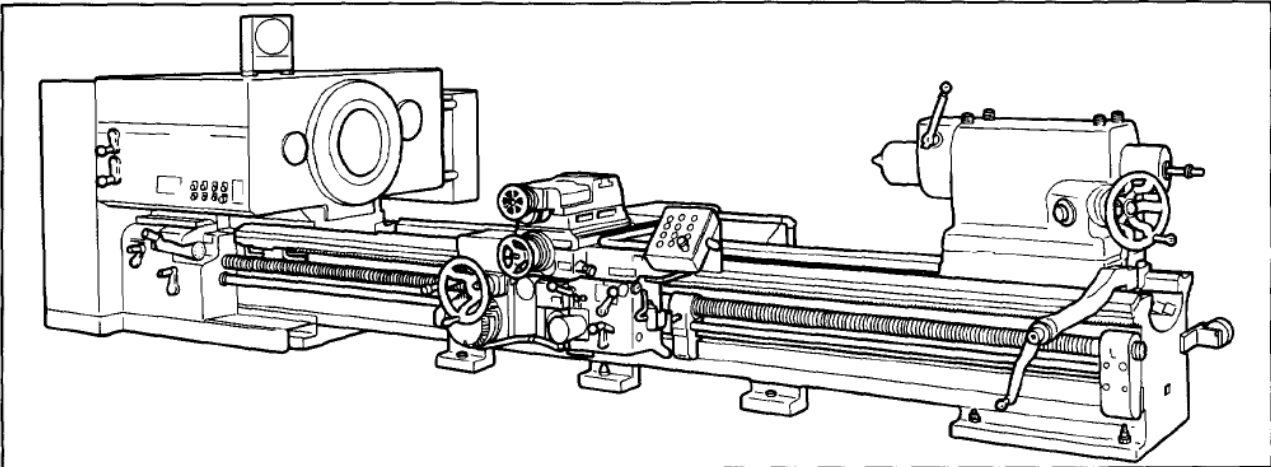
10 Right-angle lathe.



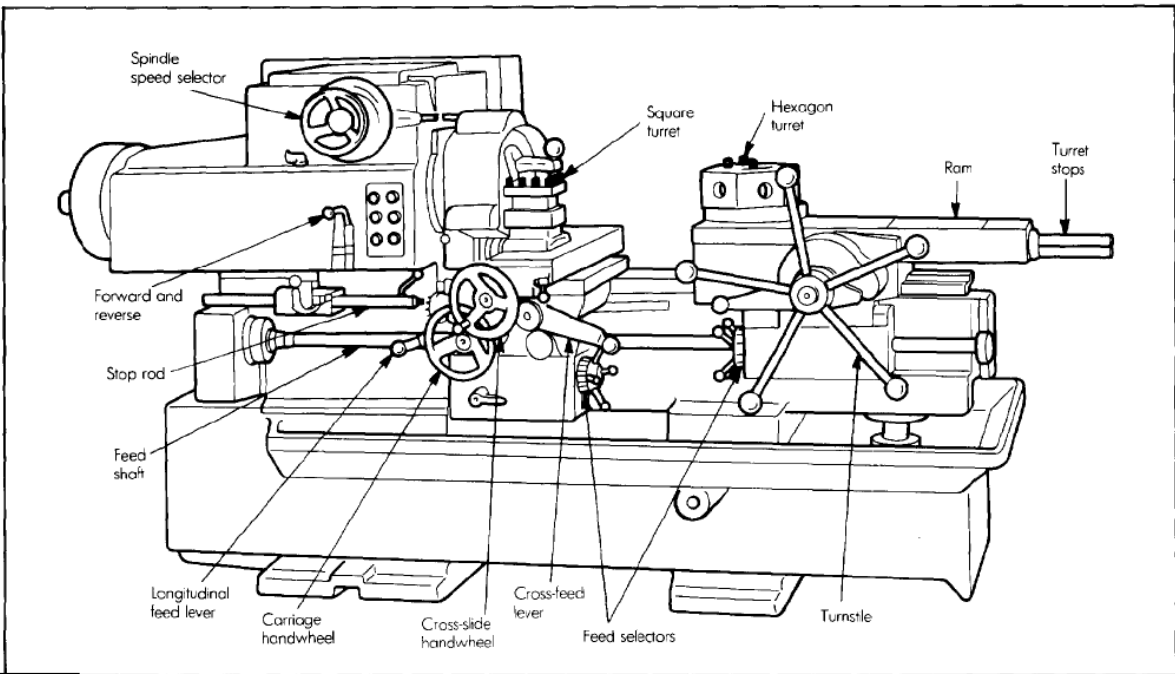
12 Typical hand-fed bench lathe



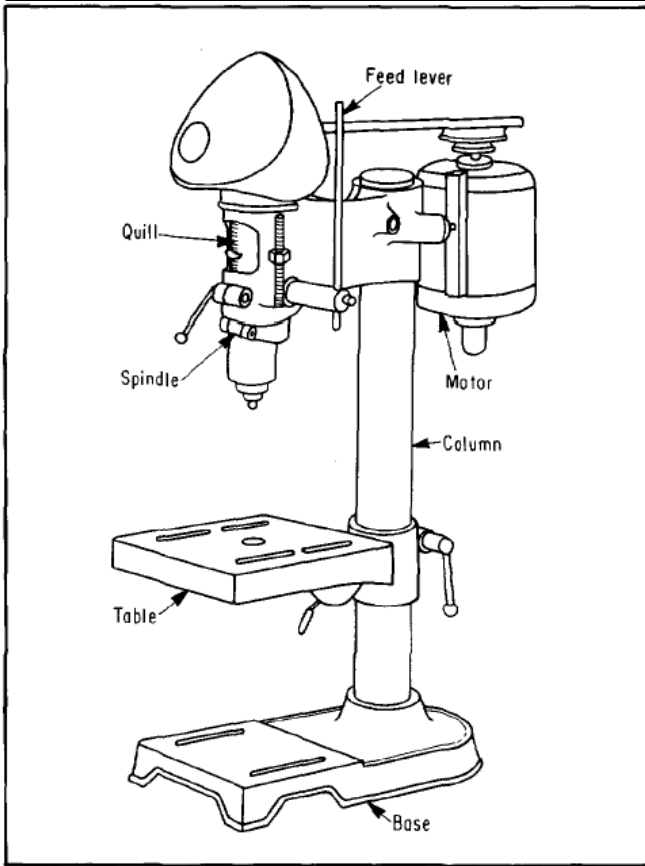
13 Center-type engine lathe.



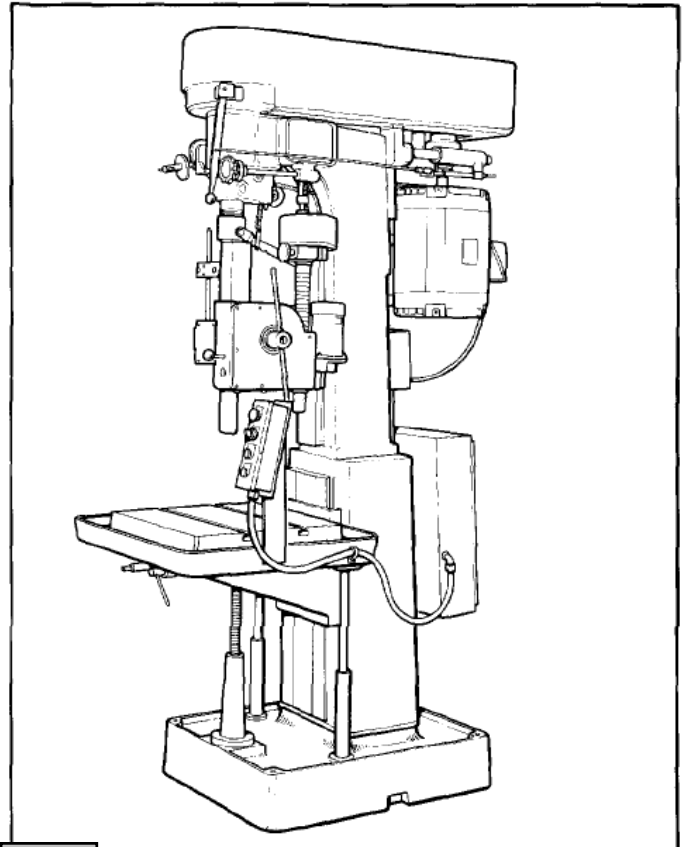
14 Large-capacity, hollow-spindle lathe. (LeBlond Makino Machine Tool Co.)



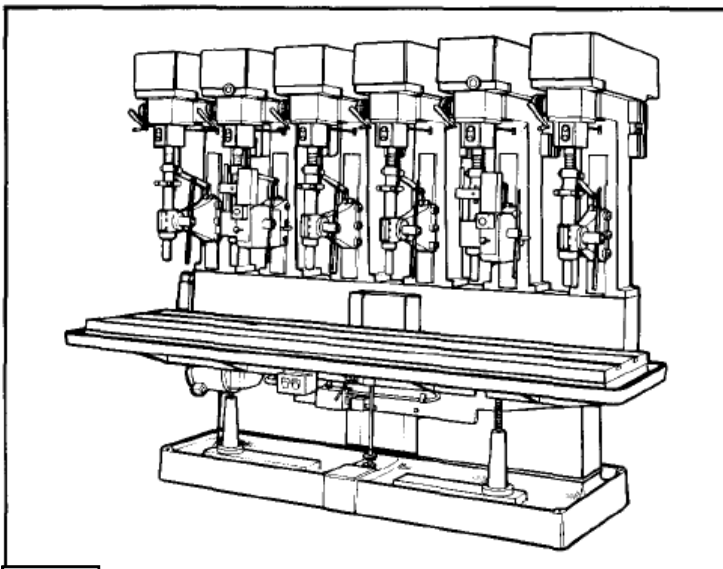
15 Power-fed ram-type turret lathe.<sup>3</sup>



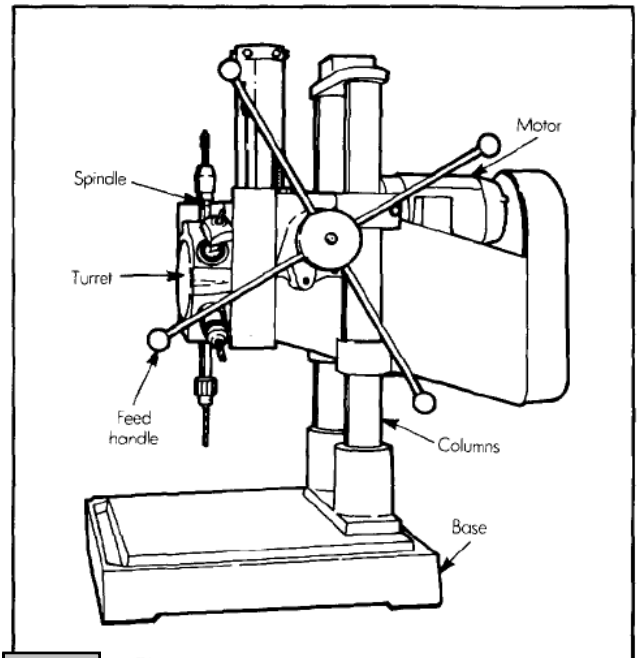
16 Light-duty, sensitive-type drilling machine with hand feed.



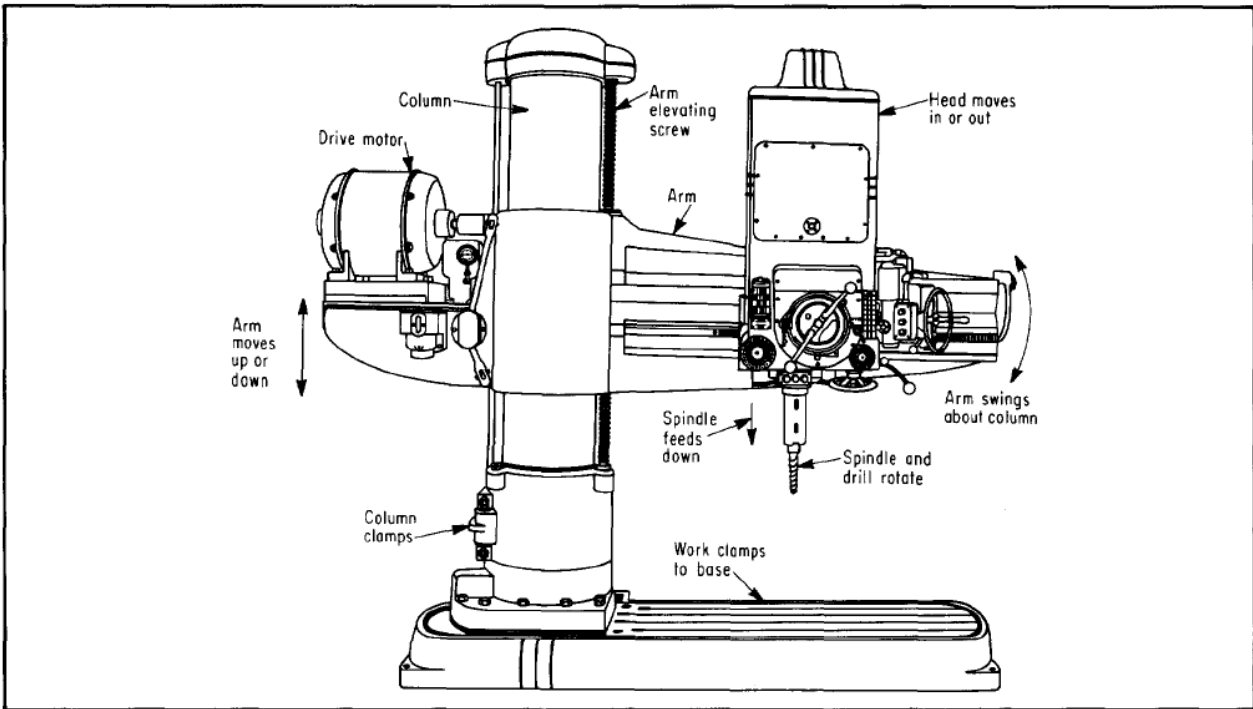
17 Upright (vertical) drilling and tapping machine with power feed and power traverse. (Chas. G. Allen Co.)



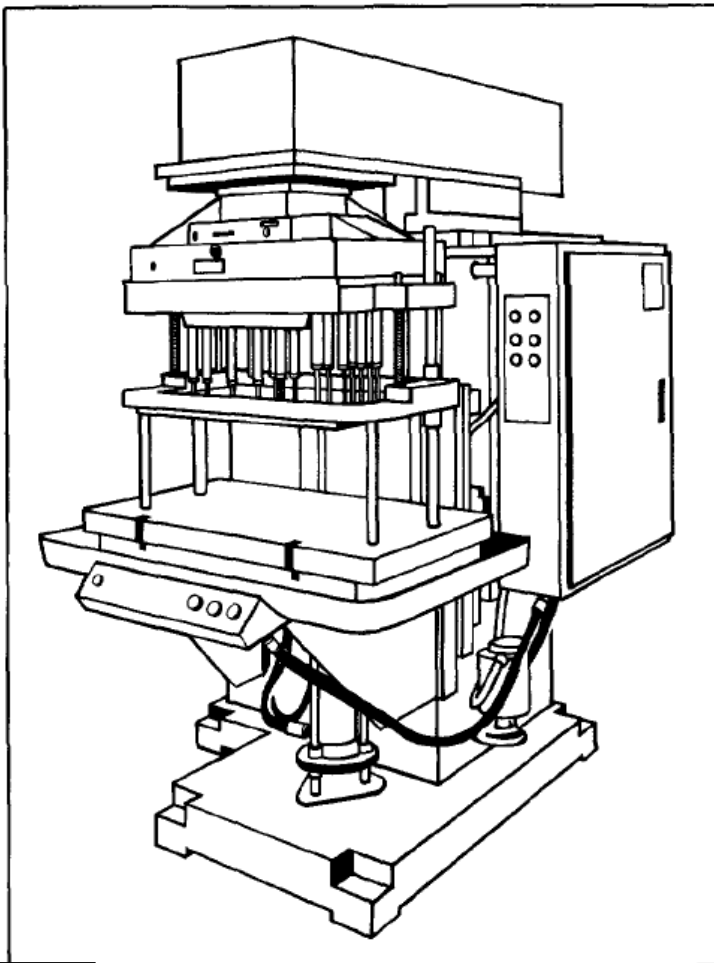
18 Gang-type, six-spindle drilling machine with both hand and power-feed top columns equipped with power elevating table. (Chas. G. Allen Co.)



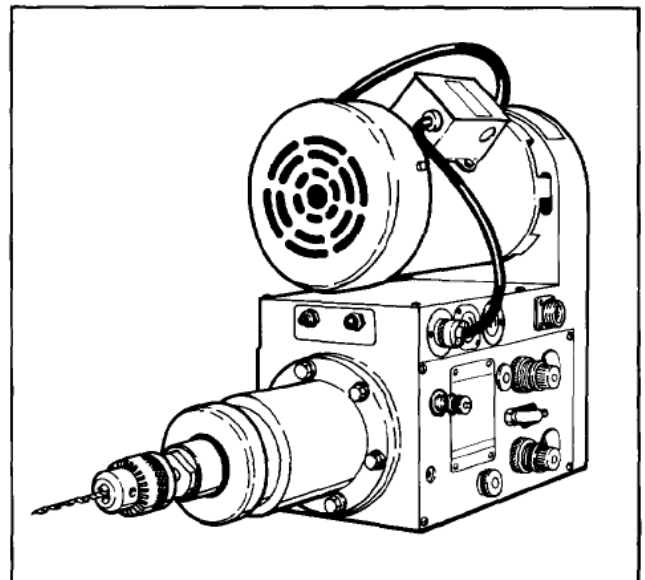
19 Manually fed, bench-type turret drilling machine of tubular column construction. (Burgmaster Div., Houdaille Industries)



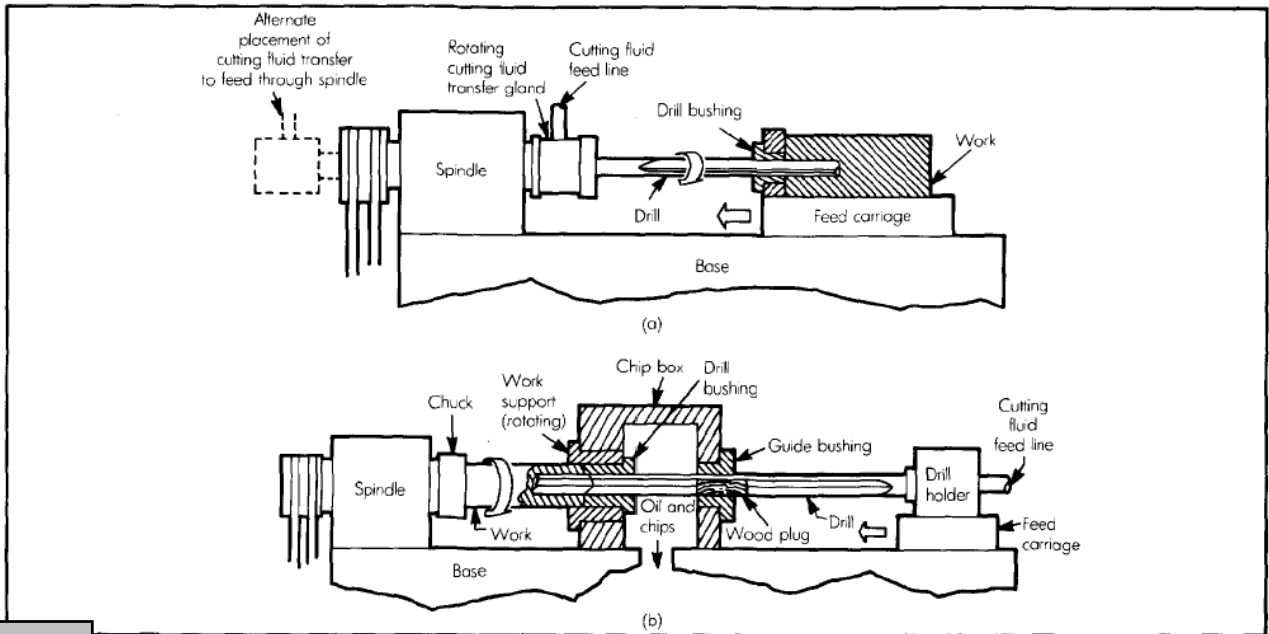
20 Radial drilling machine. Arm which carries adjustable-position drillhead can be raised, lowered, and pivoted around column.



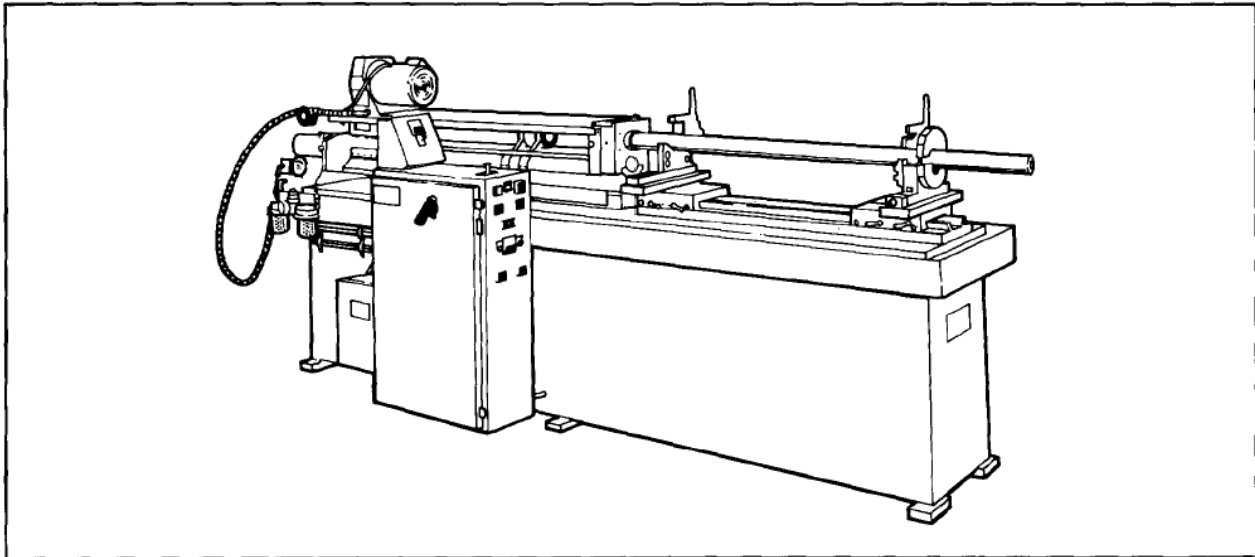
22 Multispindle drilling machine of the open-side type with way design. (Zagar, Inc.)



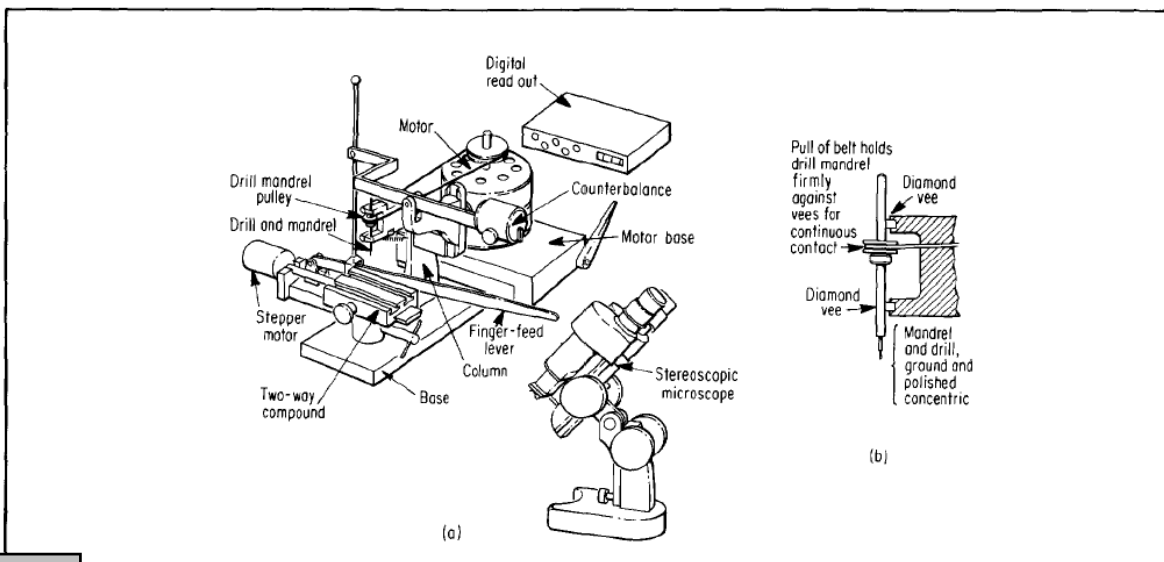
21 Automatic self-feeding drill unit. (Dumore Corp.)



23 Two methods of gun drilling: (a) tool rotating and workpiece stationary; and (b) workpiece rotating, tool nonrotating. (Eldorado Tool & Mfg. Corp.)

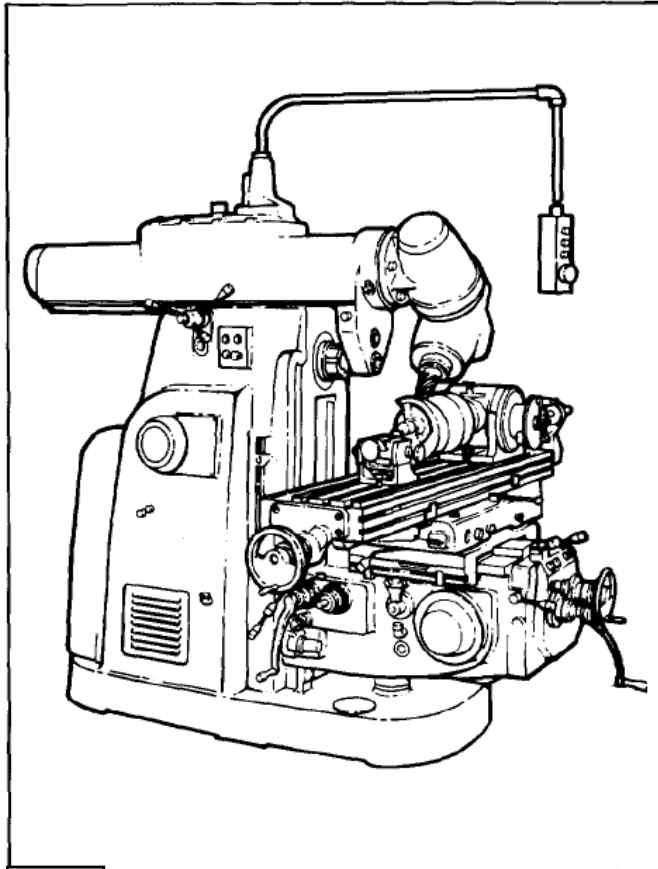


24 Fixed-table, advancing-spindle machine for deep-hole drilling.

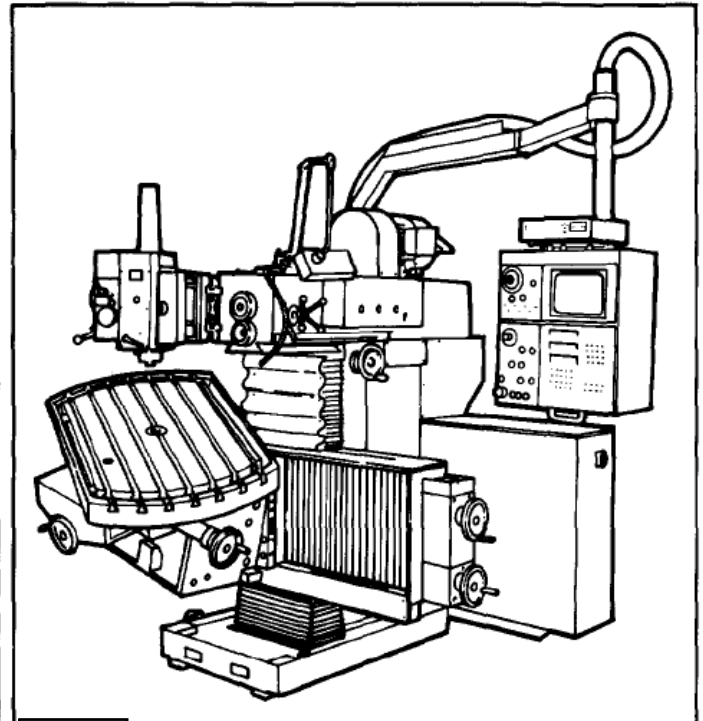


25 Ultrasensitive drilling machine for producing small holes can be used with digital readout and microscope. Tool breakage is minimized by mounting shown in view at right.

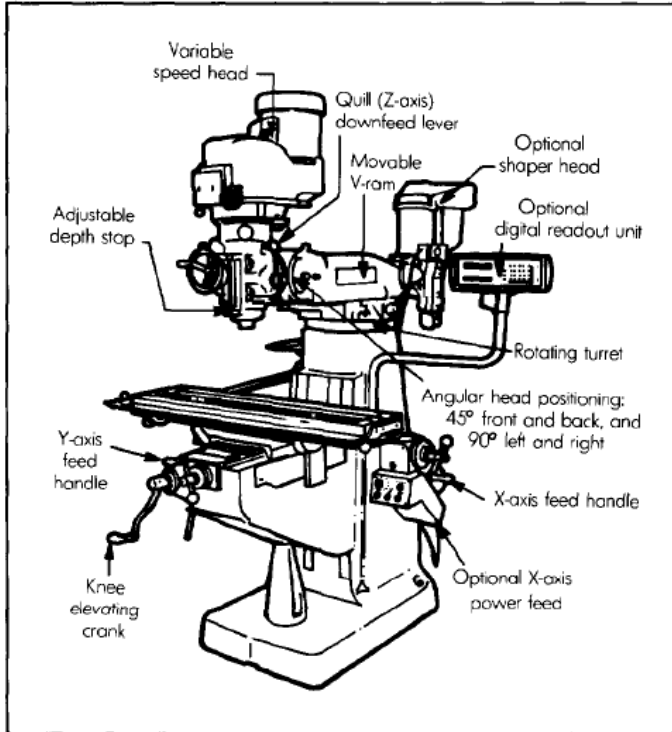




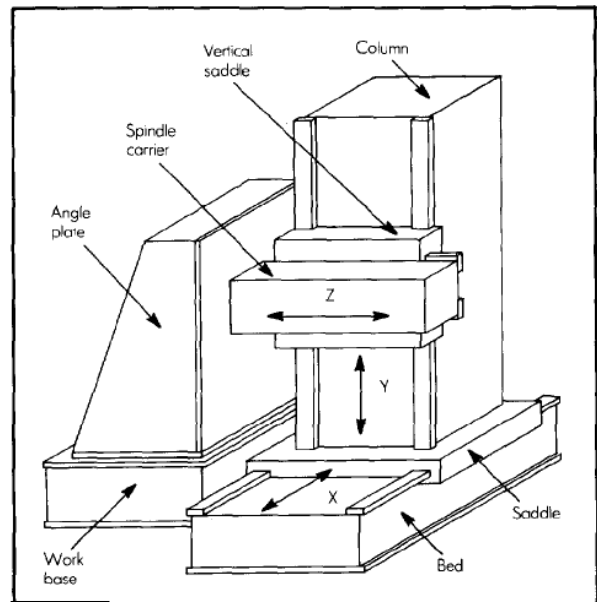
26 On ram-type or ram-head milling machines, the ram is movable by hand or power in a direction parallel to the saddle movement.



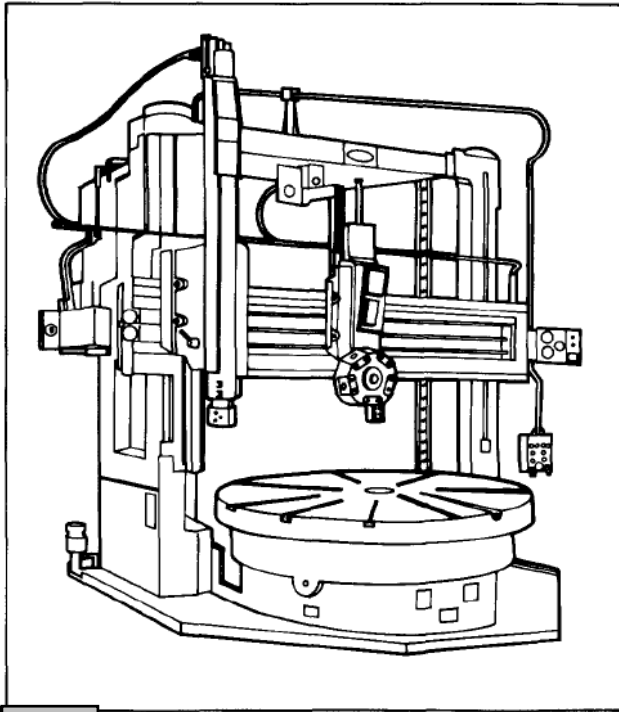
27 Universal milling machine has horizontal and vertical spindles, and a tilt table. (Maho Machine Tool Corp.)



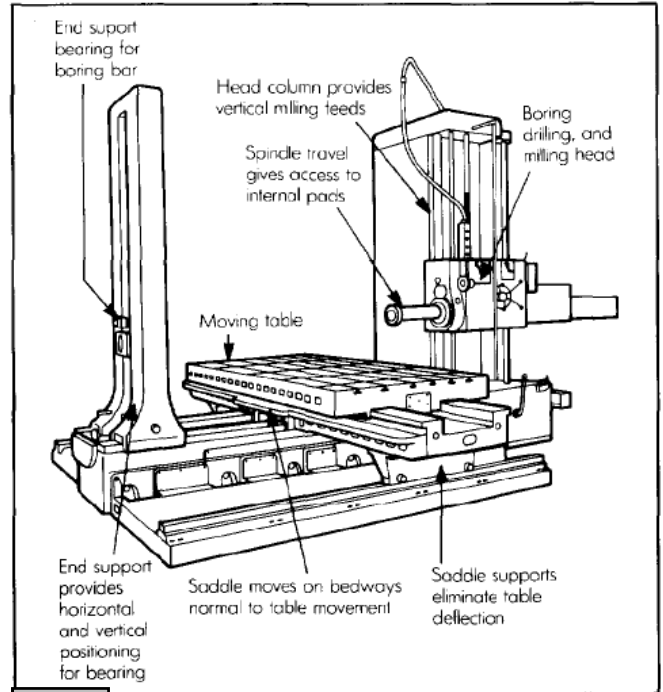
28 Turret-ram milling machine has a movable ram mounted on a swivel base atop the column. (Bridgeport Machines Div., Textron Inc.)



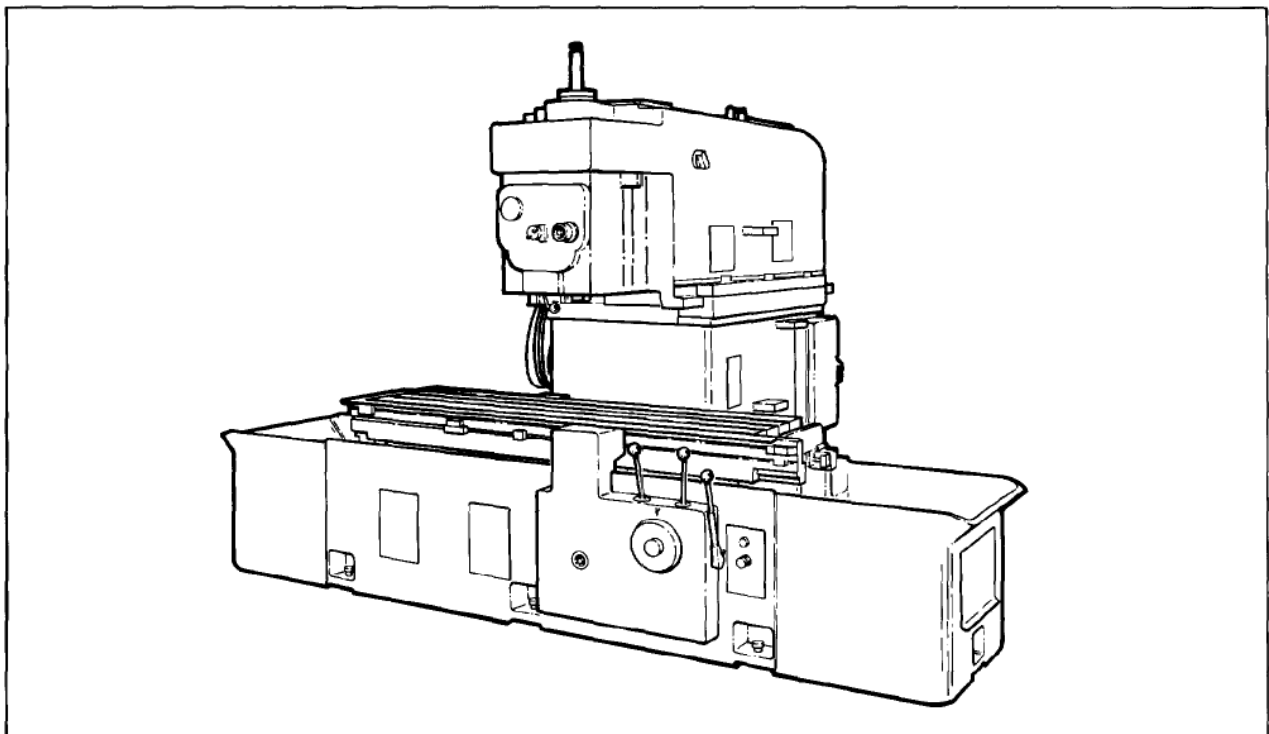
29 Traveling-column milling machine with X axis under column.



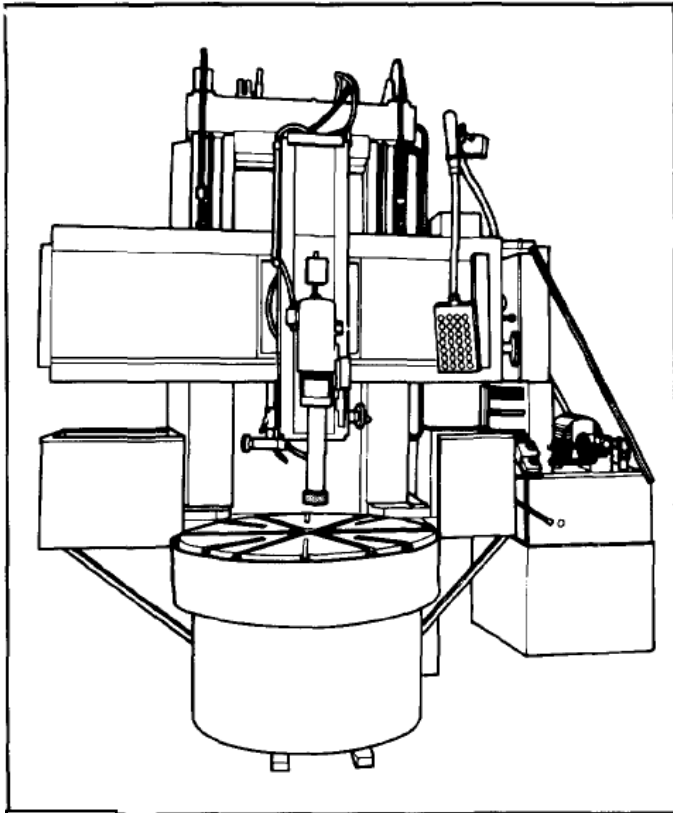
31 Vertical boring machine. (Bullard Co.)



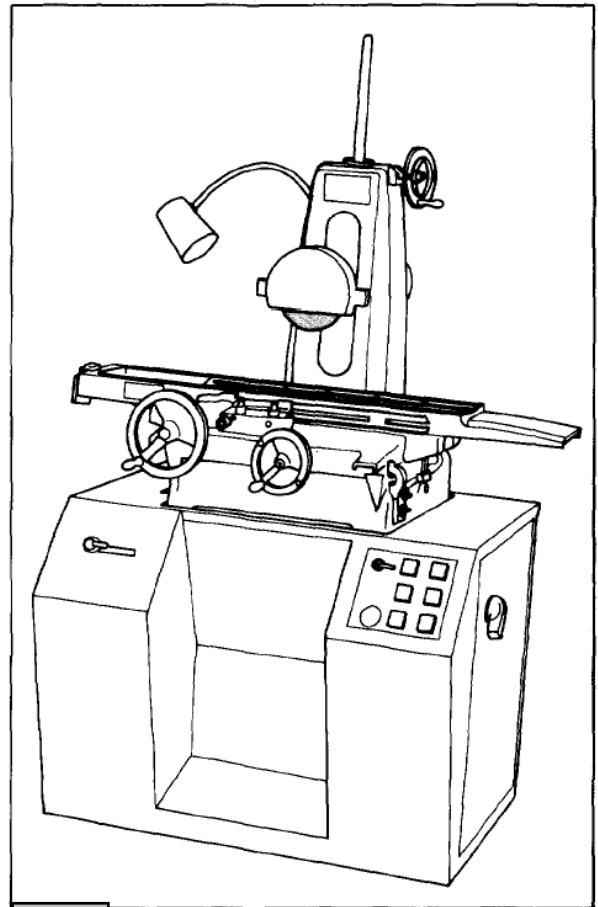
30 Table-type horizontal boring, drilling, and milling machine with end support for line boring operations.



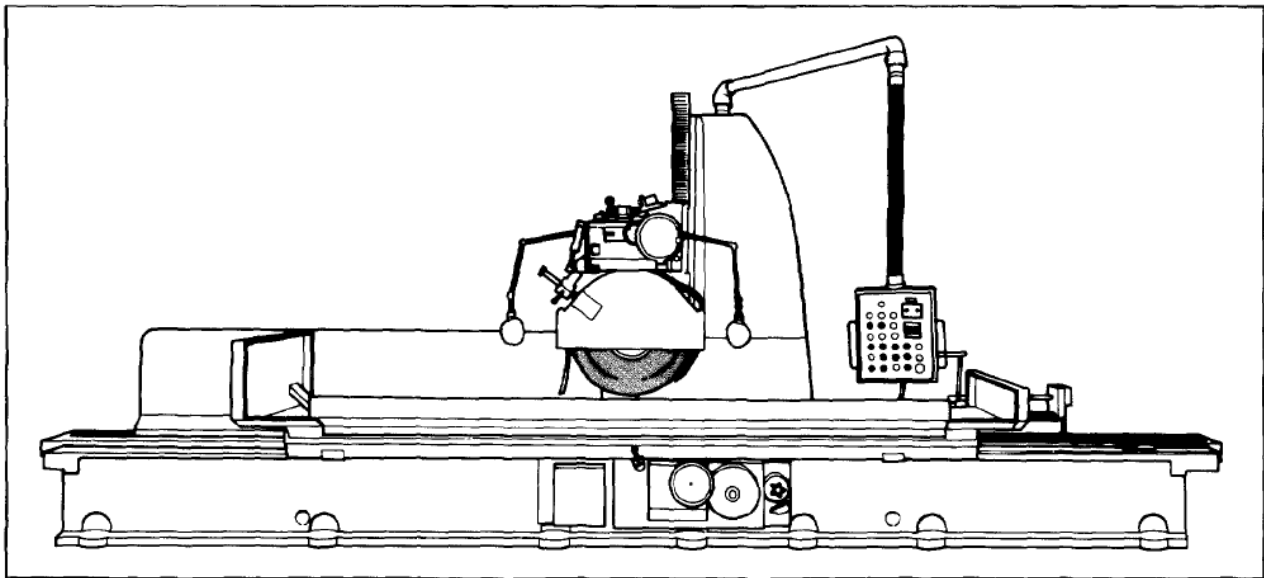
32 Vertical fixed-bed milling machine has a ram or spindle carrier mounted on a rear base.



33 Vertical, universal grinder for large workpieces.  
(Cone-Blanchard)



34 Light-duty, horizontal-spindle surface grinder for the shop and tool room. (Bridgeport/ Harig)



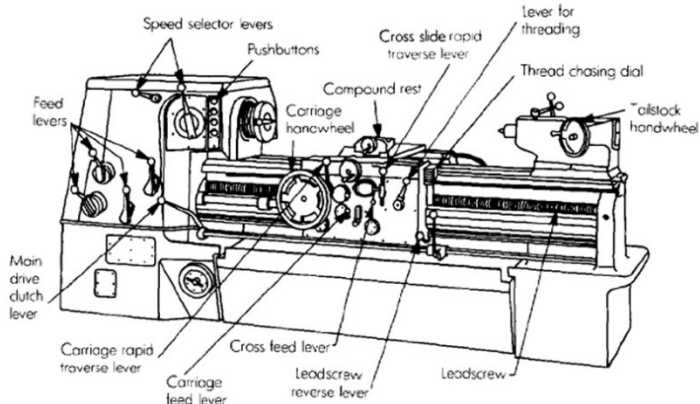
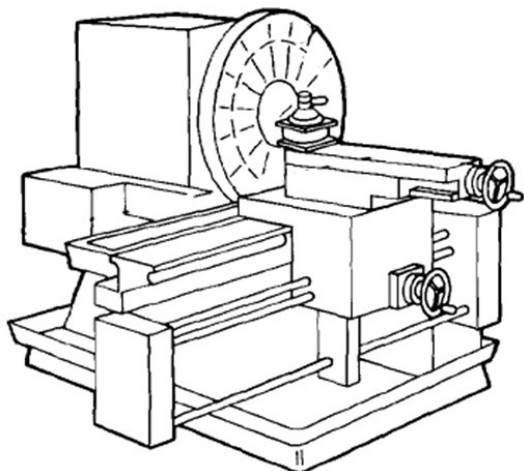
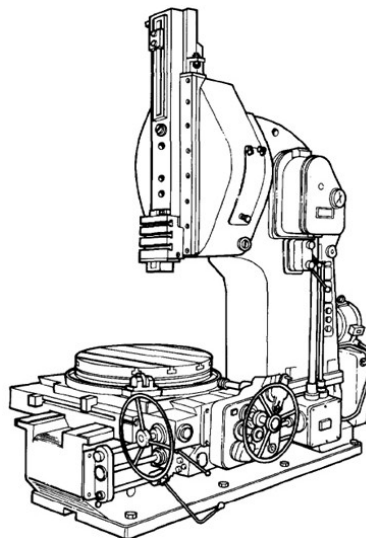
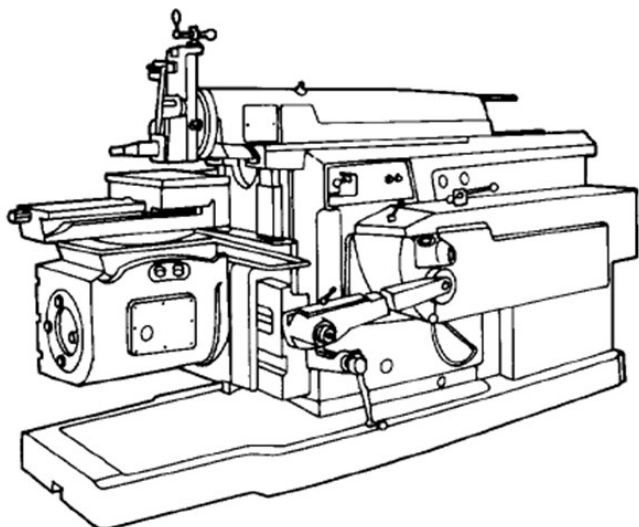
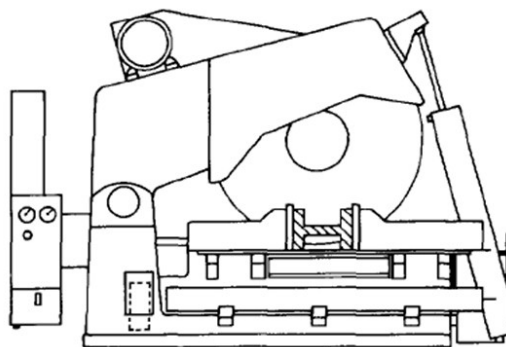
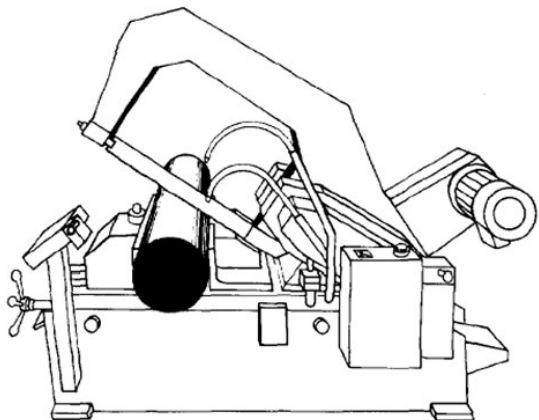
35 Heavy-duty, horizontal-spindle surface grinder— openside type. (Hill Acme Co.)

**Shahid Beheshti high training center  
Homework –Vocabulary 2**

**First & last name:**

**Date:**

**What is the name of machine tool?**

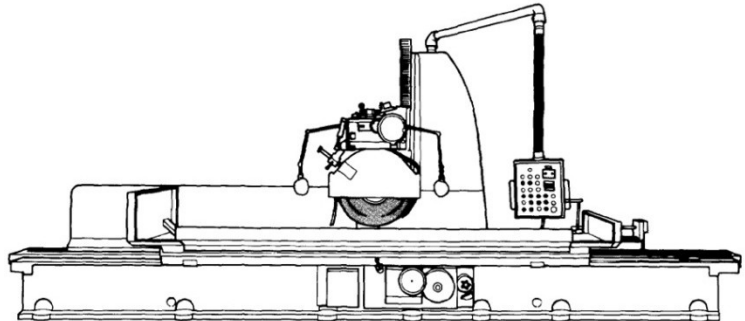
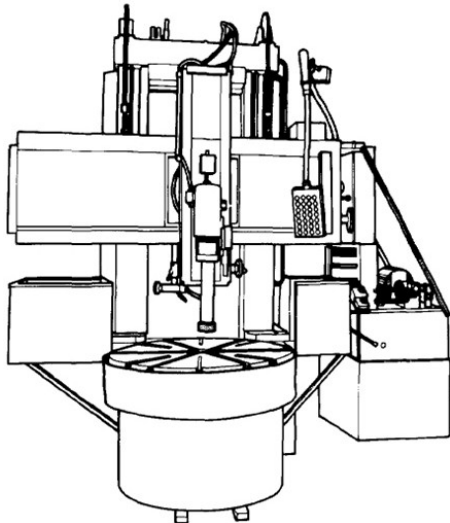
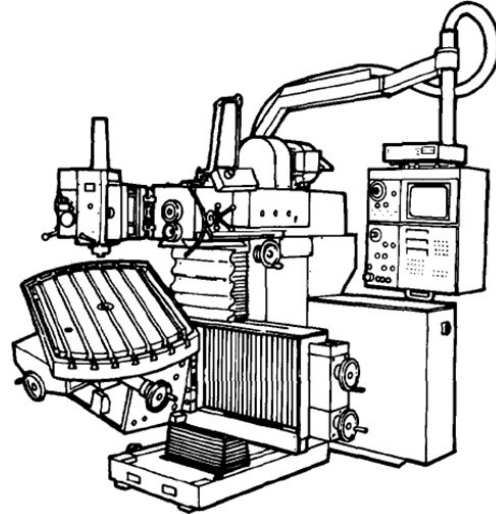
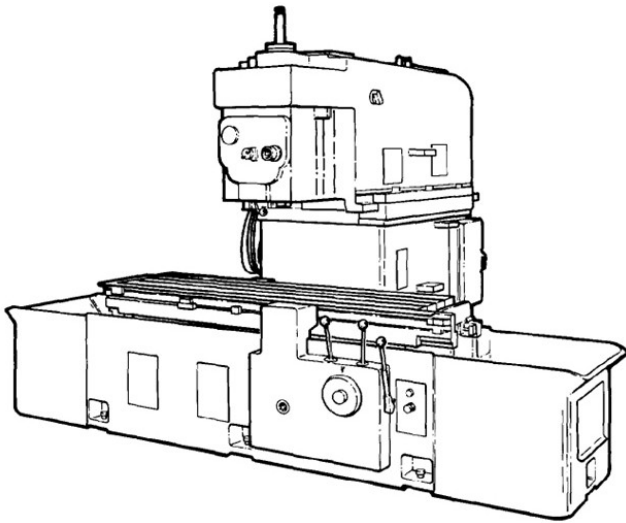
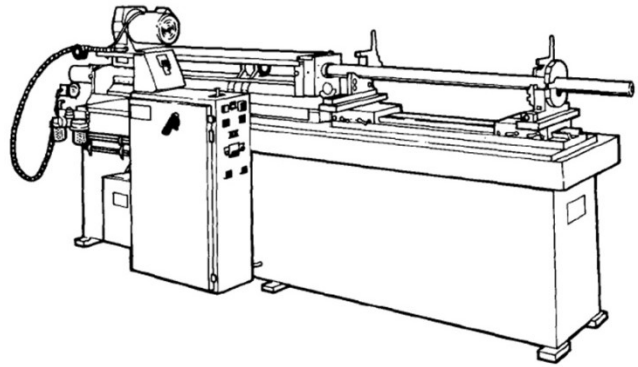
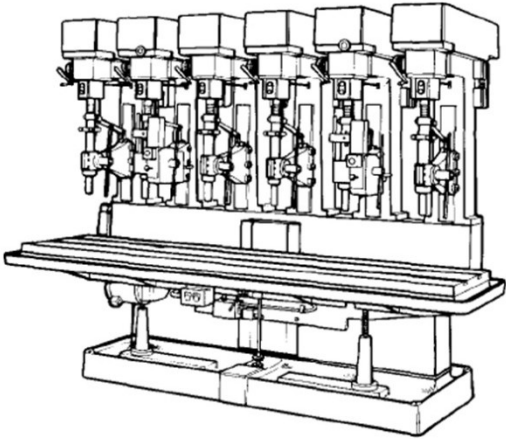


Shahid Beheshti high training center  
Homework –Vocabulary 2

First & last name:

Date:

What is the name of machine tool?

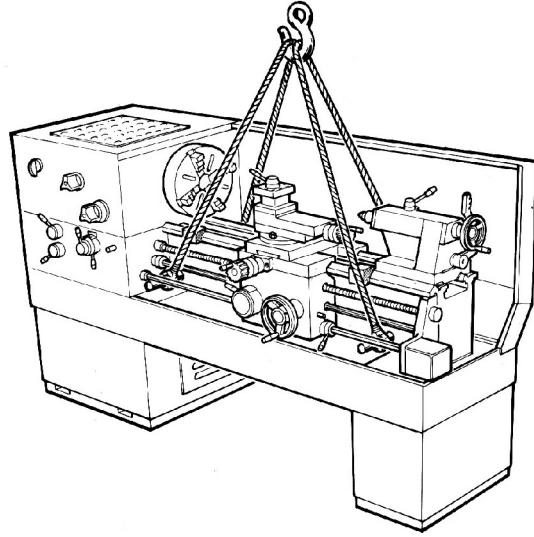


## Lesson 1

### Operator's manuals

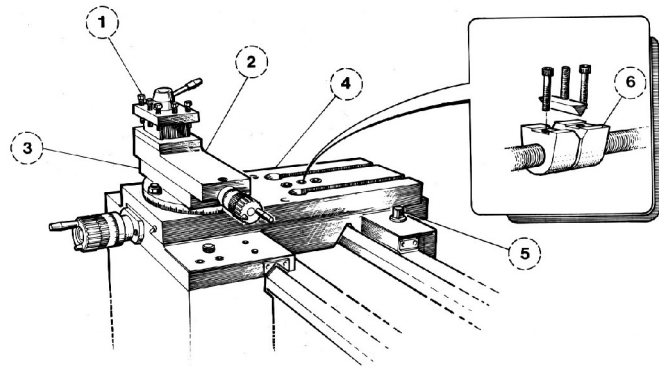
#### 1-Turning machine -Nardini MS-350, MS410

**Lifting** : To raise the lathe, displace the transversal carriage and the tailstock as far as the right extremity of the feed and fix them, avoiding that they could slide, causing any damage in other parts of the lathe. Put two steel bars of 30 mm diameter into the holes of the bed. Protect with wood blocks the parts where the cables will exert great effort. Avoid any effort of the cables over the rods, spindle and the transversal carriage. When the lifting is beginning and the cables are tight, look if the wood blocks and the balance are correct.



**Cleanliness** : The lathe went out of the factory protected with grease and preservatives which have to take off, for what we can use a soft cloth moistens with benzine. Don't use thinner, gasoline or other kind of remover. Give especial attention to the cleanliness of the carriages and lubricate them.

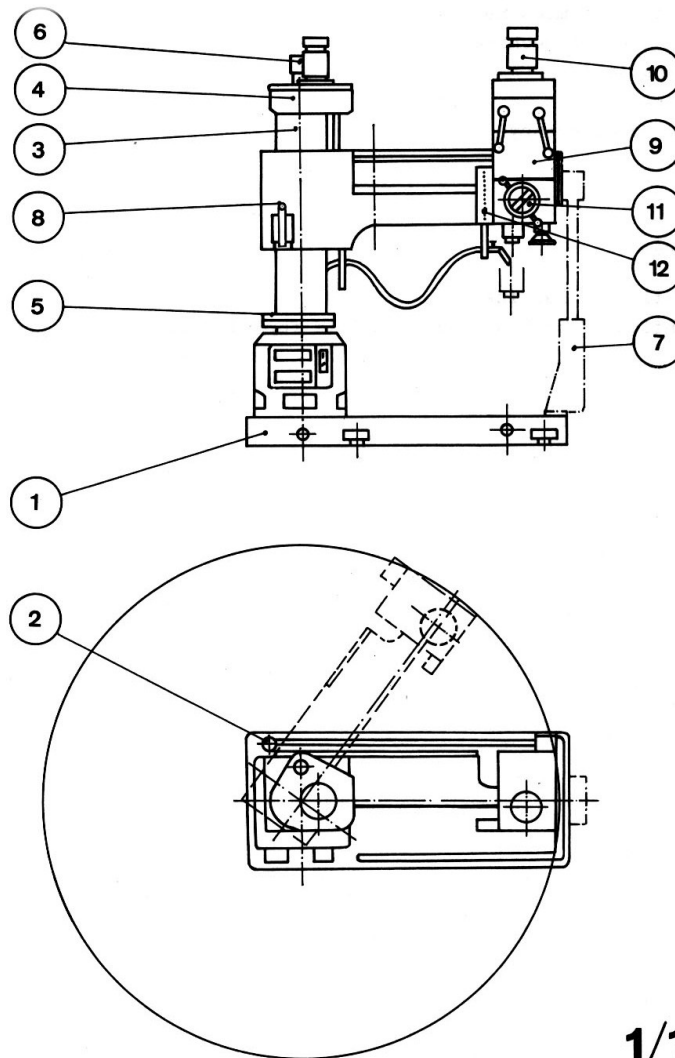
**Table** : This assemblage is composed by a turret (1) a longitudinal carriage (2), a rotating base (3) and a transversal carriage (4). It was projected to offer an easy handle, being soft and precise in its motion. To great precision of reading on the transversal carriage dial, the spindle screw has a system which eliminates the looseness. Always when turning the tapers, put the table on correct position, adjusting the screw (5). Give special attention to the lubrication which is manually.



## 2-Drilling Machine

### Radial drilling machine BR50

**Illustration of machine :** 1.Base    2.Coolant device    3.Double-shell column  
 4.Radial arm drive with power supply (covered)    5.Column clamping attachment  
 6.Clamp drive    7.Support column (accessory)    8.Radial arm  
 9.Drill head    10.Drill spindle drive    11.Drill spindle adjusting head  
 12.Control panel



1/1

**Description of machine :** The base provided with 3 T-slots is designed for holding the work or fixtures. On to the base the internal column is screwed which carries the outer shell on two bearings rotating free from backlash. Outer shell and drill head are both clamped by one electric clamp drive which is mounted on the radial arm drive and is operated by the centralized control panel.



## Specifications

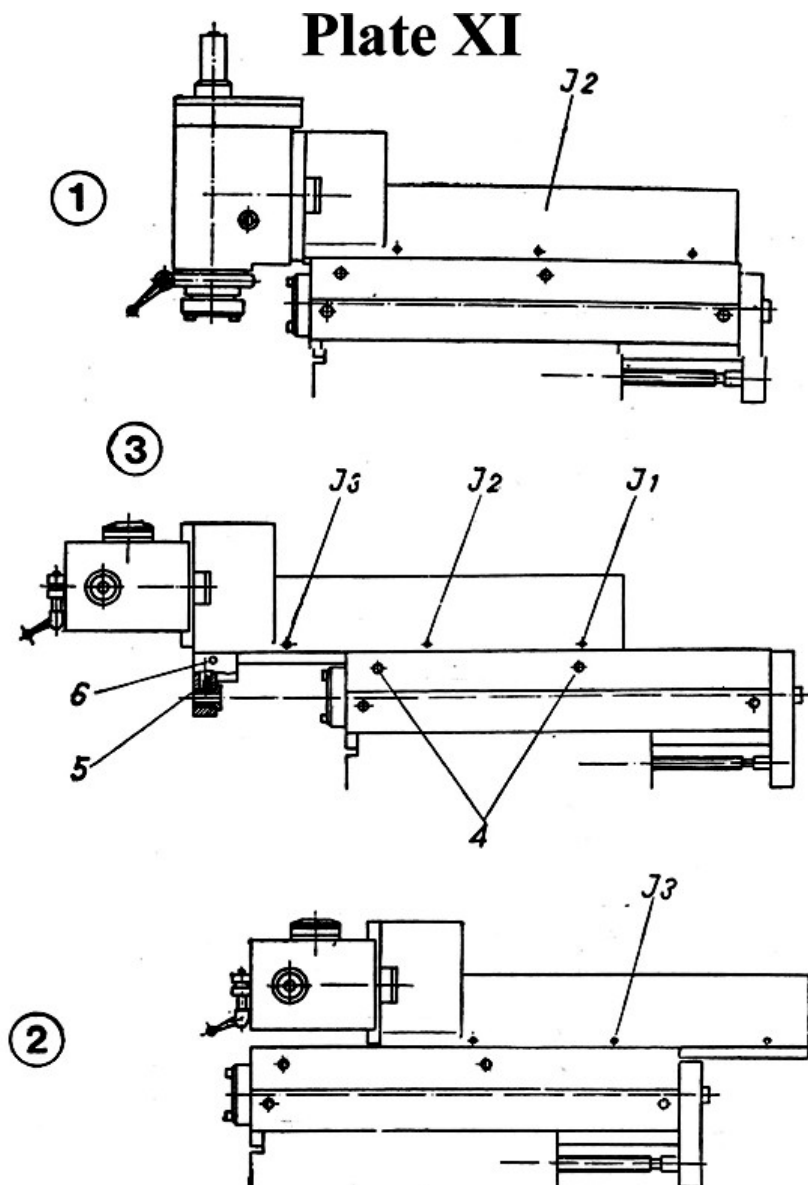
Working range		50 Hz	60 Hz
<b>Drilling capacity</b>			
Max. drilling motor output	kW	4	4.8
Max. drilling diameter in St 60-2	mm	50	
Max. drilling diameter in GGL-20	mm	63	
<b>Tapping</b>			
metrical thread in St 60-2	mm	M52x1.5	
metrical thread in GGL-20	mm	M65x1.5	
Sweep of drilling spindle	mm	320 ... 1600	
Distance of drill spindle to base plate	mm	460 ... 1400	
Swivel radius of drill spindle	mm	490 ... 1770	
Swivel range of radial arm	degrees	360	
<b>Clamping area of base</b>			
length	mm	1835	
width	mm	1000	
<b>T-slots TGL 3045 (ISO 299-1971)</b>			
number		3	
width	mm	22 H7	
distance	mm	250	
<b>Drill spindle</b>			
Tool taper A TGL 0-228 (ISO 296-1974)	Morse	K5	
Max. stroke	mm	360	
Max. torque	Nm	≈ 1000	
Max. feed force		≈ 14000	
<b>Speeds</b>			
Speed range	rpm	1400	1700
<b>Feeds</b>			
Feed range	mm/rev.	0.04 ... 1.6	
<b>Drive motor</b>			
Total output (connected load)	kW	5	6
Drill motor power	kW	4	4.8
Drill motor speed	rpm	1430	1720
<b>Space required for machine</b>			
length	mm	2500	
width	mm	1000	
height	mm	3080	
Net weight with electrical equipment	kg	4000	



### 3-Milling machine

## Universal milling machine FUS-22

**Utilization of the vertical cutter (Plate XI) :** The vertical milling cutter is fitted to the counterarm of the horizontal slide. To have the main vertical shaft connected to the main linkage of the machine, it is necessary to bring the counterarm in working position, that is opposite the middle indicator ( $J_2$ ) (Plate XI-1). In case operations with the horizontal shaft are performed, the vertical milling head is to rotated clockwise to 90°, and the counterarm retired in the rear position ( $J_3$  on plate XI-2). It is possible to rotate the head after the four nuts are turned back by means of a 10 mm hexagon spanner.



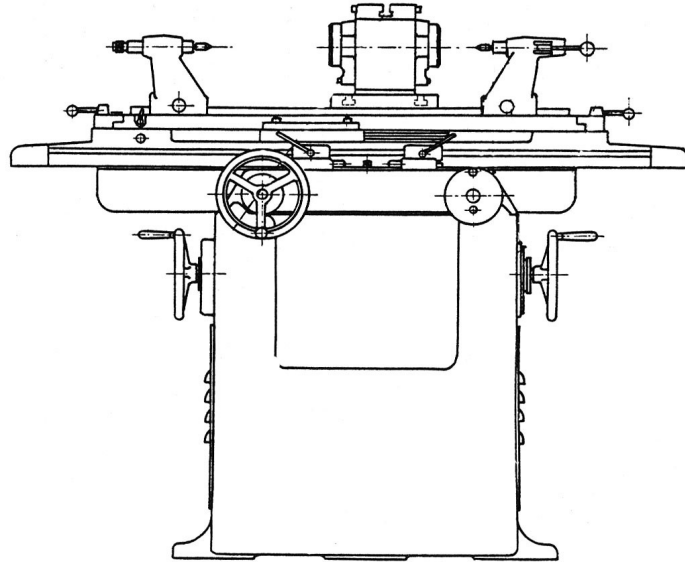
## 4-Grinding machine

### Universal cutting and tool grinding machine SWU250I

#### Operating Instructions

#### Principle Instructions for Tool Grinding : In metal-cutting operations

not too many cuts should be taken so that the cutters will not be softened. Any contact pressure should be avoided. If the tool shows any tooth breakage or truncated teeth the latter have then to be often machined by through-feed grinding. All teeth have to be



ground uniformly so that the tool will retain its round shape and the individual teeth should neither project nor back off.

Instructions for Grinding Carbide-tipped Tools : Generally only carbide metal is ground by means of silicon carbide plates. For grinding purposes of shank material corundum wheels are applied. The clearance angle on the shank is ground for about  $2^\circ$  to  $4^\circ$  more than on the cutting edge. For pre-grinding purposes of the plates grinding wheels having a mean abrasive grit size should be used. Rough grinding on fine wheels requires too much time. For the purpose of finish grinding either a silicon carbide wheel having finest abrasive grit size or a diamond wheel should be applied.

#### Reference Values on the Peripheral Speed of Grinding Wheels

Material of the tool	Wheel of	Peripheral speed m/s
steel	special fused alumina	20 to 25 (max. 30)
Carbide metal	silicon carbide	6 to 15
	diamond	18 to 22

ترجمه بخشی از درس یک (کتاب راهنمای ماشین تراش ناردینی MS-350, MS410)

### Lifting

بلند کردن

To raise the lathe, displace the transversal carriage and the tailstock as far as the right extremity of the feed and fix them, avoiding that they could slide, causing any damage in other parts of the lathe.

بلند کردن - تراش - جابجا کردن - متقاطع - حماله (سوپرت) - و - دستگاه مرغک - تا حدی (as far as) - راست - انتها - پیشروی - و - محکم کردن - آنها - جلوگیری - که - آنها - توانستن - لغزش کردن - موجب - هر - خسارت - به - دیگر - بخشهای - تراش

برای بلند کردن تراش، سوپرت و مرغک را به منتهی الیه سمت راست ببرید و آنها را در جای خود محکم کنید تا از لغزیدن آنها جلوگیری گردد و به دیگر قسمت‌های تراش خسارتی وارد نشود.

Put two steel bars of 30mm diameter into the holes of the bed.

قرار دادن - دو - فولادی - میلله ها - ۳۰ میلی متری - قطر - درون - سوراخهای - پایه دستگاه  
دو میلله فولادی به قطر ۳۰ میلی متر را درون سوراخهای پایه دستگاه قرار دهید.

Protect with wood blocks the parts where the cables will exert great effort.

محافظت کردن - با - چوب - بلوکها - قطعات - که - کابلها - اعمال کردن - زیاد - تلاش  
به کمک بلوکهای چوبی از قطعاتی که طنابها بروی آنها لغزش زیادی دارند حفاظت کنید.

Avoid any effort of the cables over the rods, spindle and the transversal carriage.

خودداری کردن - هر - تقلا - کابلها - بالای - میلله ها - محور اصلی - و - متقاطع - حماله  
از هر گونه لغزش طنابها در سر تا سر میلله ها، محور اصلی و سوپرت جلوگیری نمایید.

When the lifting is beginning and the cables are tight, look if the wood blocks and the balance are correct.

هنگامی که - بالا بردن - شروع می شود - و - طنابها - سفت شده اند (are tight) - نگاه کردن - آیا - چوب - بلوکها - و - تعادل - هستند - صحیح

وقتی ماشین تراش بالا آمد و طنابها محکم شدند، توجه کنید که موقعیت بلوکهای چوبی درست باشد دستگاه در حالت تعادل قرار گیرد.

### Cleanliness

نظافت

**The lathe went out of the factory protected with grease and preservatives which have to take off, for what we can use a soft cloth moistens with benzine.**

ماشین تراشی که از کارخانه خارج می گردد جهت محافظت، با گریس و مواد نگاه دارنده پوشانده می شود که بعداً باید با پارچه نرم آغشته به بنزین تمیز شود.

**Don't use thinner, gasoline or other kind of remover.**

از تینر، گازوئیل یا مواد پاک کننده دیگر استفاده نکنید.

**Give especial attention to the cleanliness of the carriages and lubricate them.**

هنگام نظافت سوپرت و روغن کاری آن بسیار دقت کنید.

### ترجمه نهایی:

بلند کردن: برای بلند کردن تراش، سوپرت و مرغک را به منتهی الیه سمت راست ببرید و آنها را در جای خود محکم کنید تا از لغزیدن آنها جلوگیری گردد و به دیگر قسمتهای تراش خسارتی وارد نشود. دو میله فولادی به قطر ۳۰ میلی متر را درون سوراخهای پایه دستگاه قرار دهید. به کمک بلوکهای چوبی از قطعاتی که طنابها بروی آنها لغزش زیادی دارند حفاظت کنید. از هر گونه لغزش طنابها در سر تا سر میله ها، محور اصلی و سوپرت جلوگیری نمایید. وقتی ماشین تراش بالا آمد و طنابها محکم شد توجه کنید که موقعیت بلوکهای چوبی درست باشد تا دستگاه در حالت تعادل قرار گیرد.

نظافت: ماشین تراشی که از کارخانه خارج می گردد جهت محافظت، با گریس و مواد نگاه دارنده پوشانده می شود که بعداً باید با پارچه نرم آغشته به بنزین تمیز شود. از تینر، گازوئیل یا مواد پاک کننده دیگر استفاده نکنید. هنگام نظافت سوپرت و روغن کاری آن بسیار دقت کنید.

**تمرین: متن بالا را با توجه به اصول آیین نگارش زبان پارسی ویرایش نمایید.**

**Shahid Beheshti high training center  
Homework 1 -1**

**First & last name:**

**Date:**

**Translate this text step by step.**

**Description of machine**

**The base provided with 3 T-slots is designed for holding the work or fixtures. On to the base the internal column is screwed which carries the outer shell on two bearings rotating free from backlash. Outer shell and drill head are both clamped by one electric clamp drive which is mounted on the radial arm drive and is operated by the centralized control panel.**