

Figure 7-0.1

A Section Created with CAD. *This material has been reprinted with the permission from and under the copyright of Autodesk, Inc.*

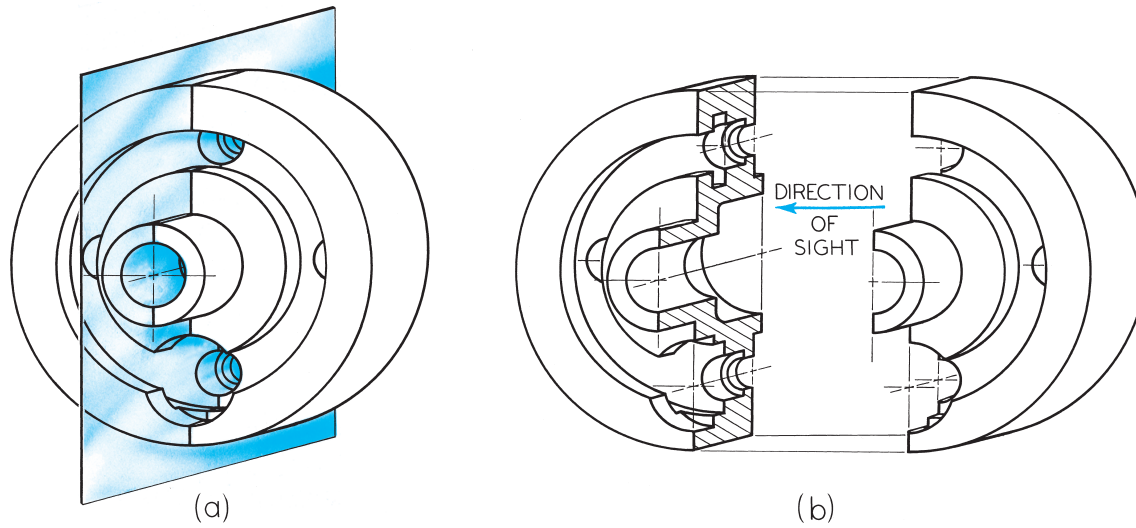


Figure 7-1
A Section.

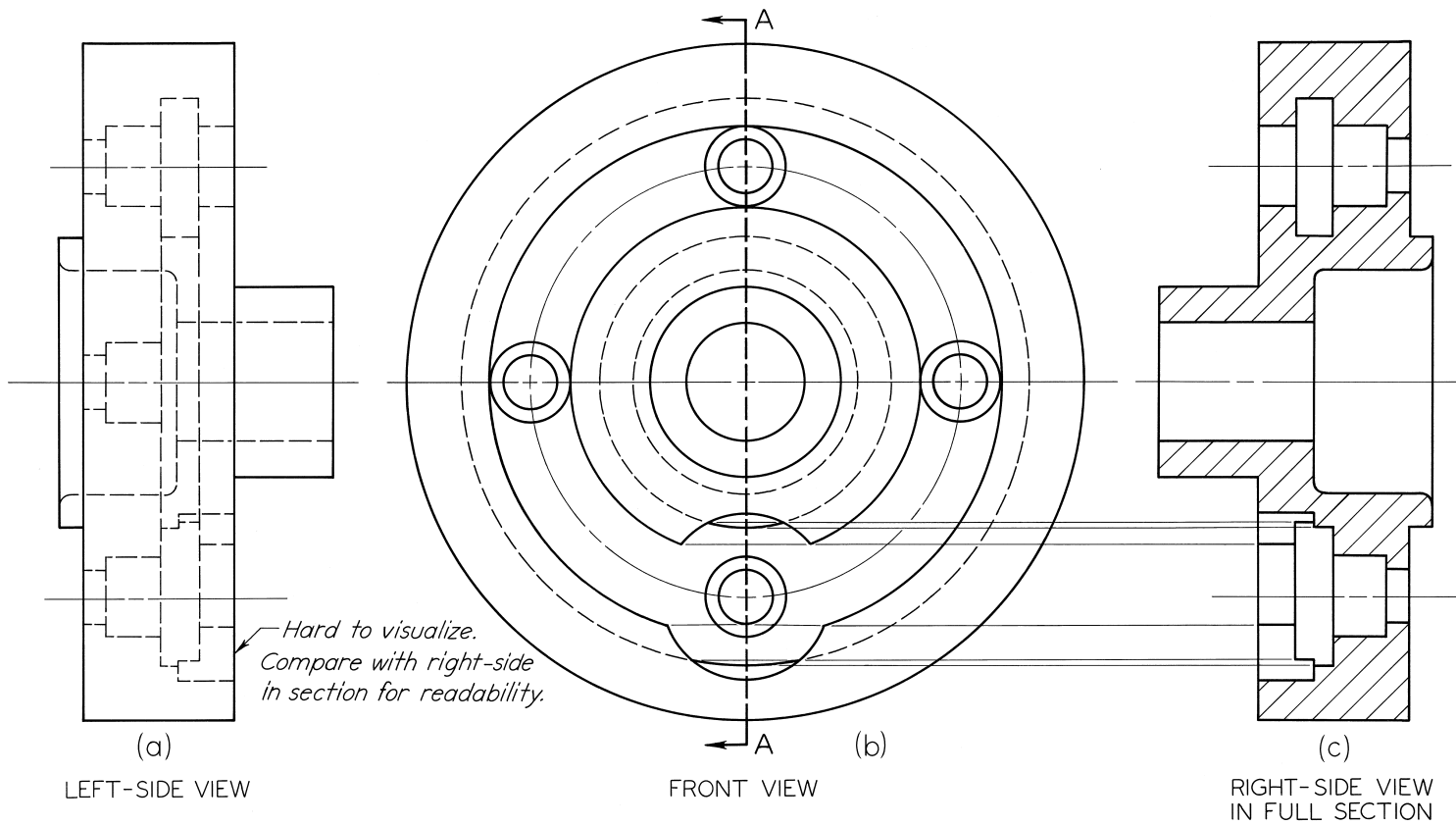


Figure 7-2
Full Section.

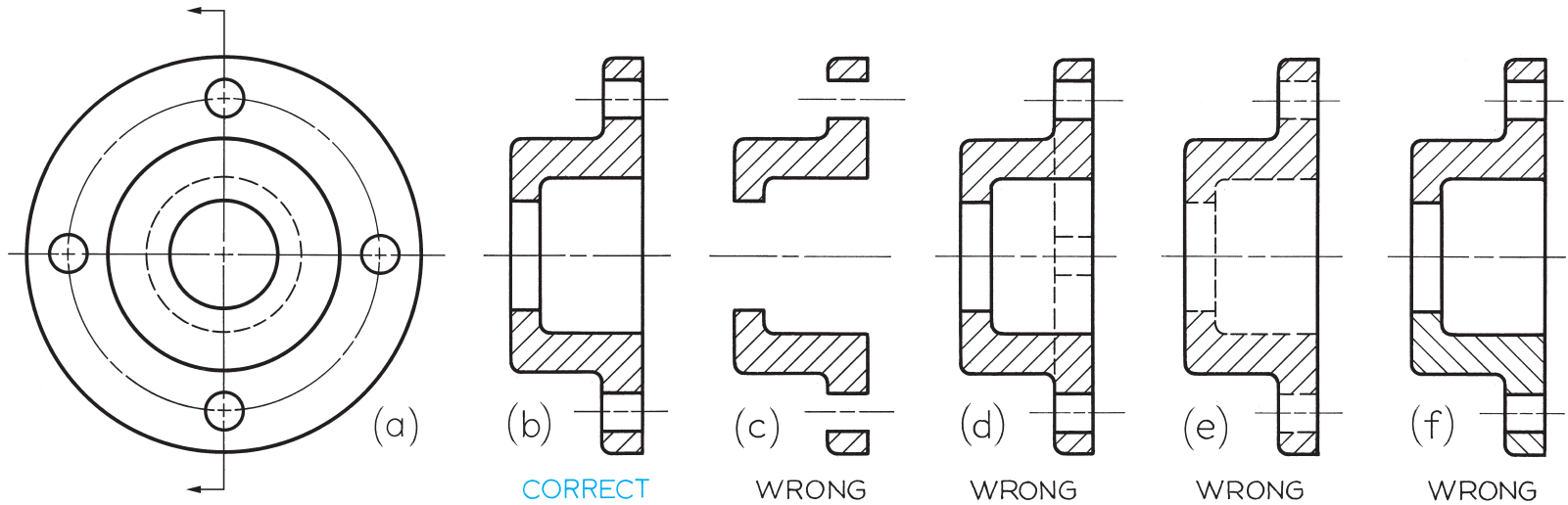


Figure 7-3
Lines in Sectioning.

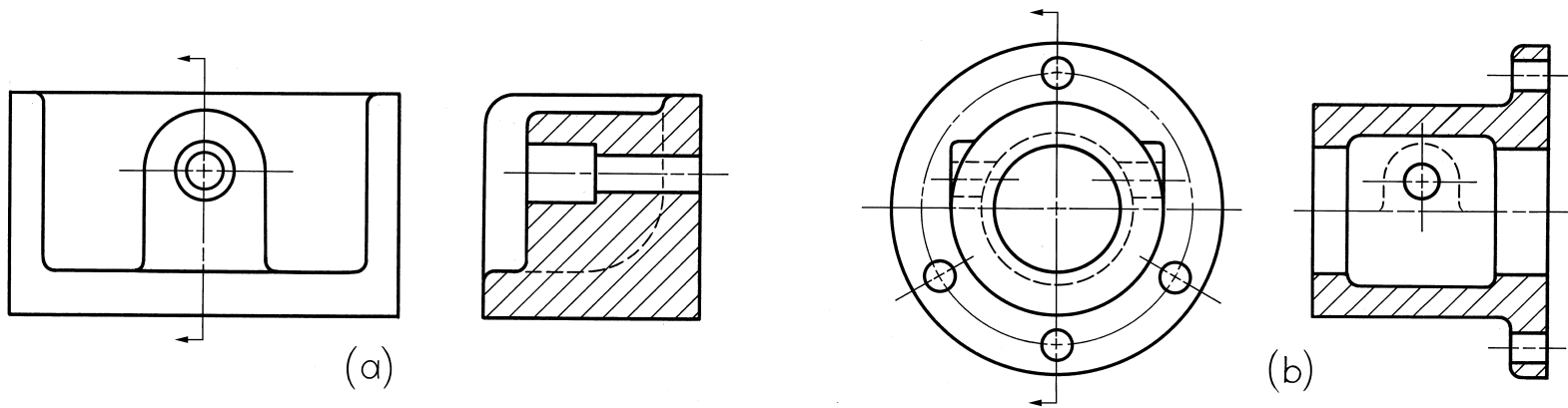


Figure 7-4
Hidden Lines in Sections.

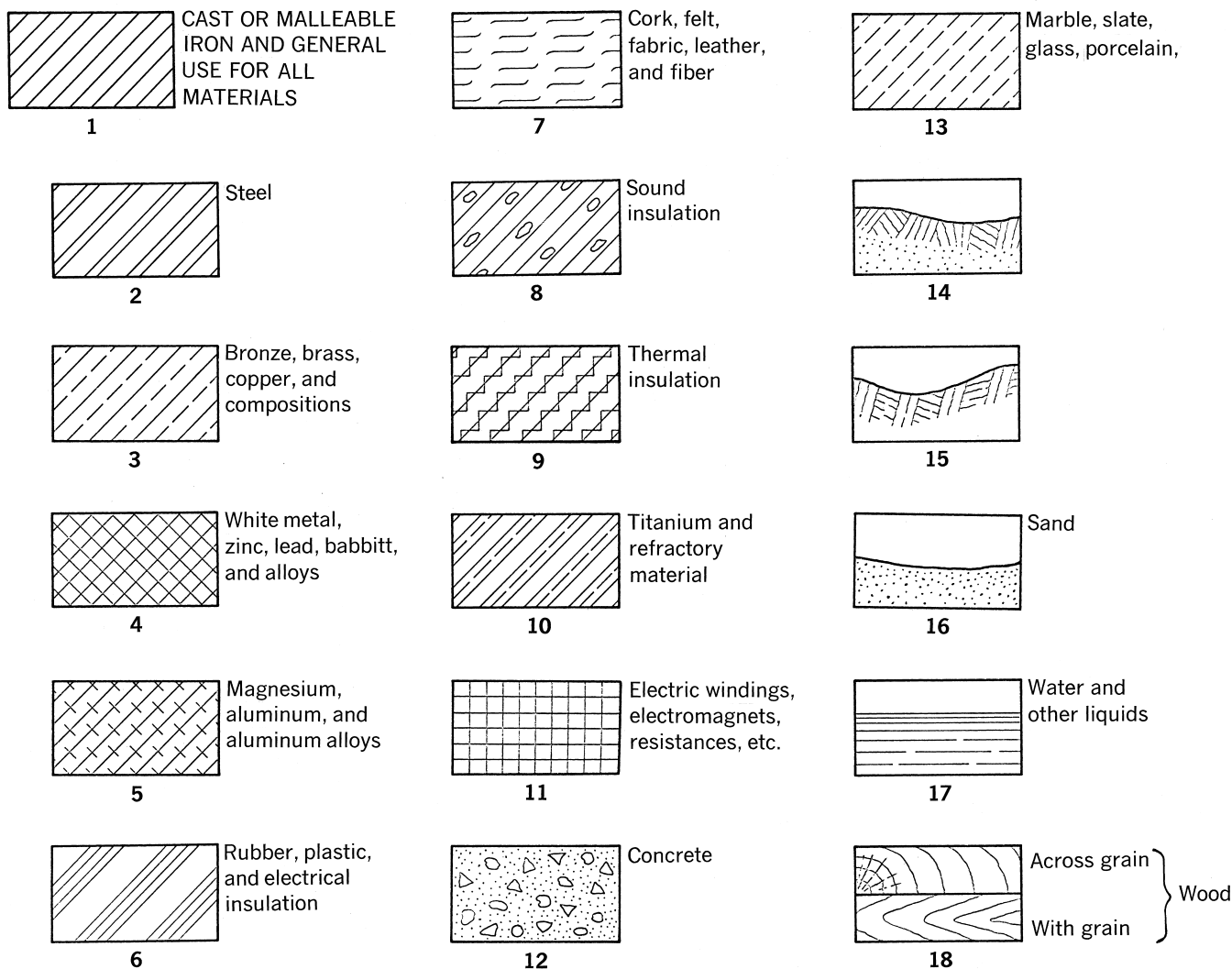


Figure 7-5

Symbols for Section Lining.

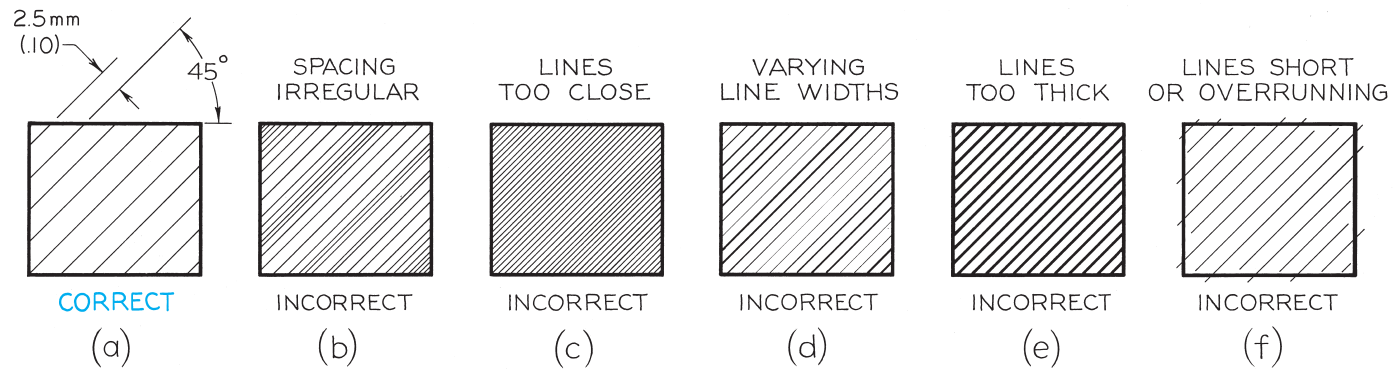


Figure 7-6
Section-Lining Technique

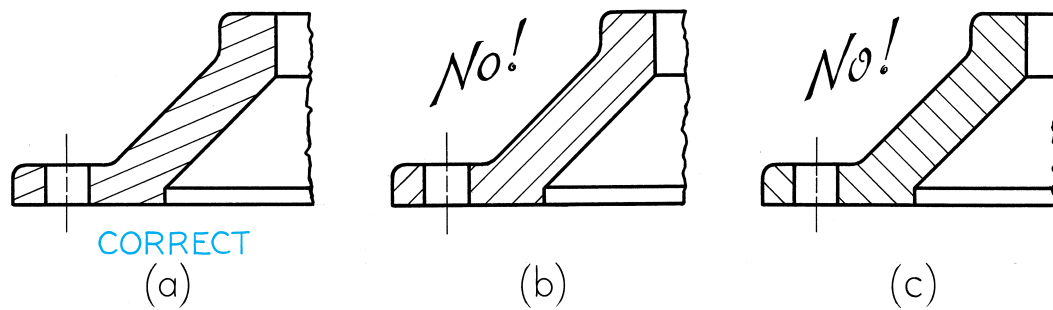


Figure 7-7
Direction of Section Lines.

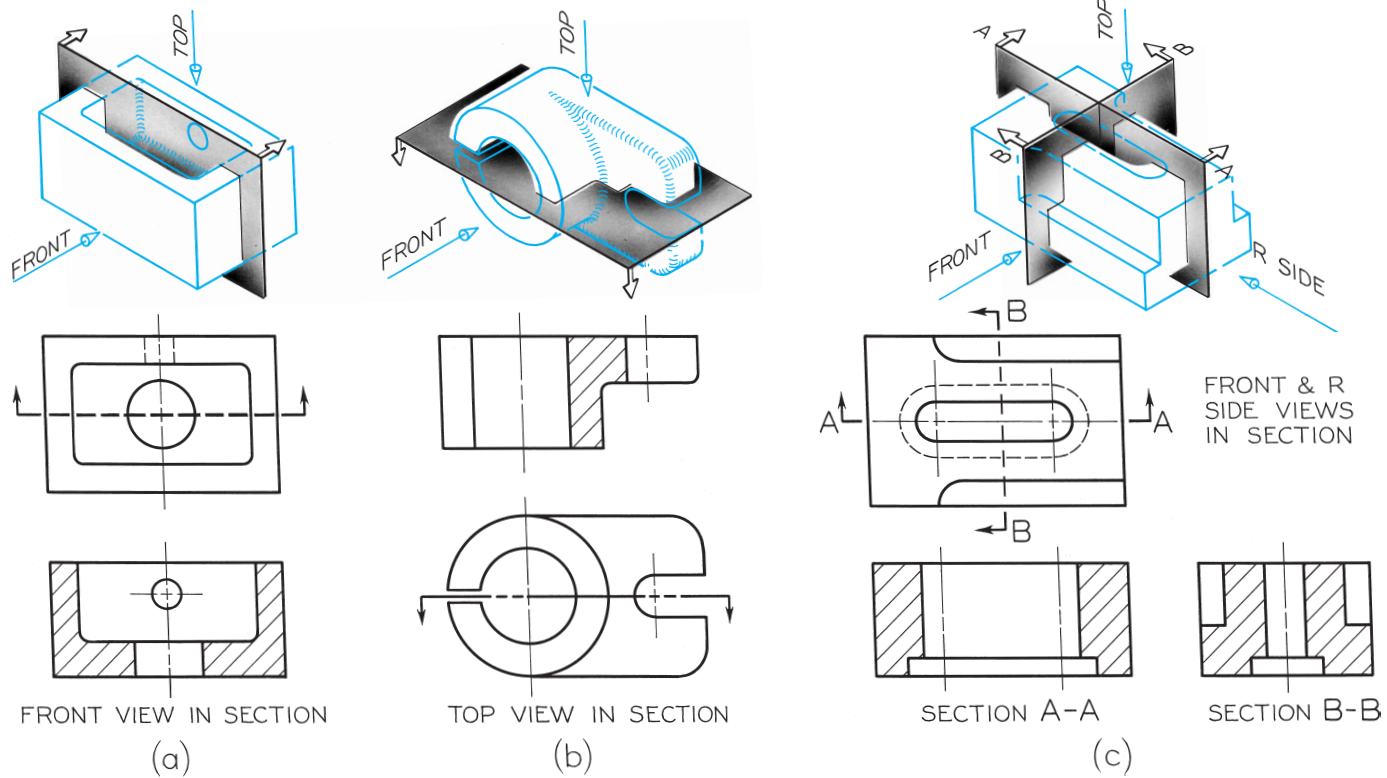


Figure 7-8
Cutting planes and Sections.

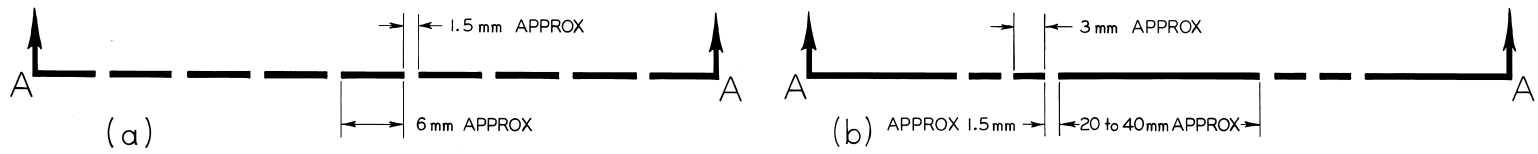
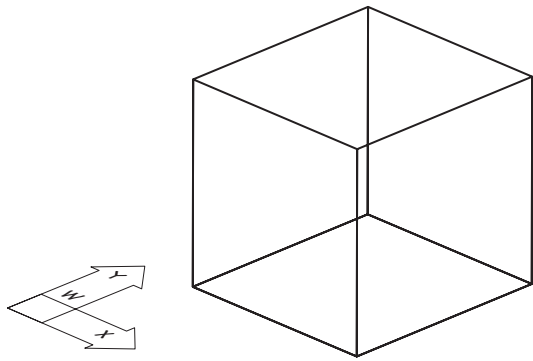
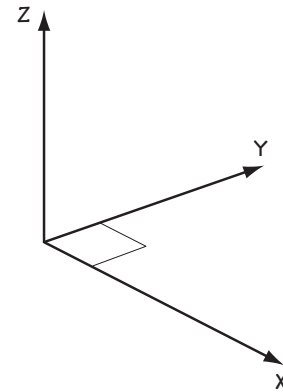


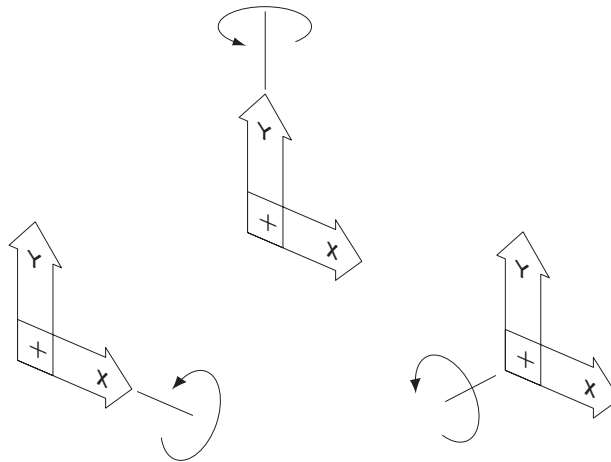
Figure 7-9
Cutting-Plane Lines (Full Size).



(A)



(B)



(C)

Figure 7-9.1

Using autocad 2002 to create “XYZ” space.

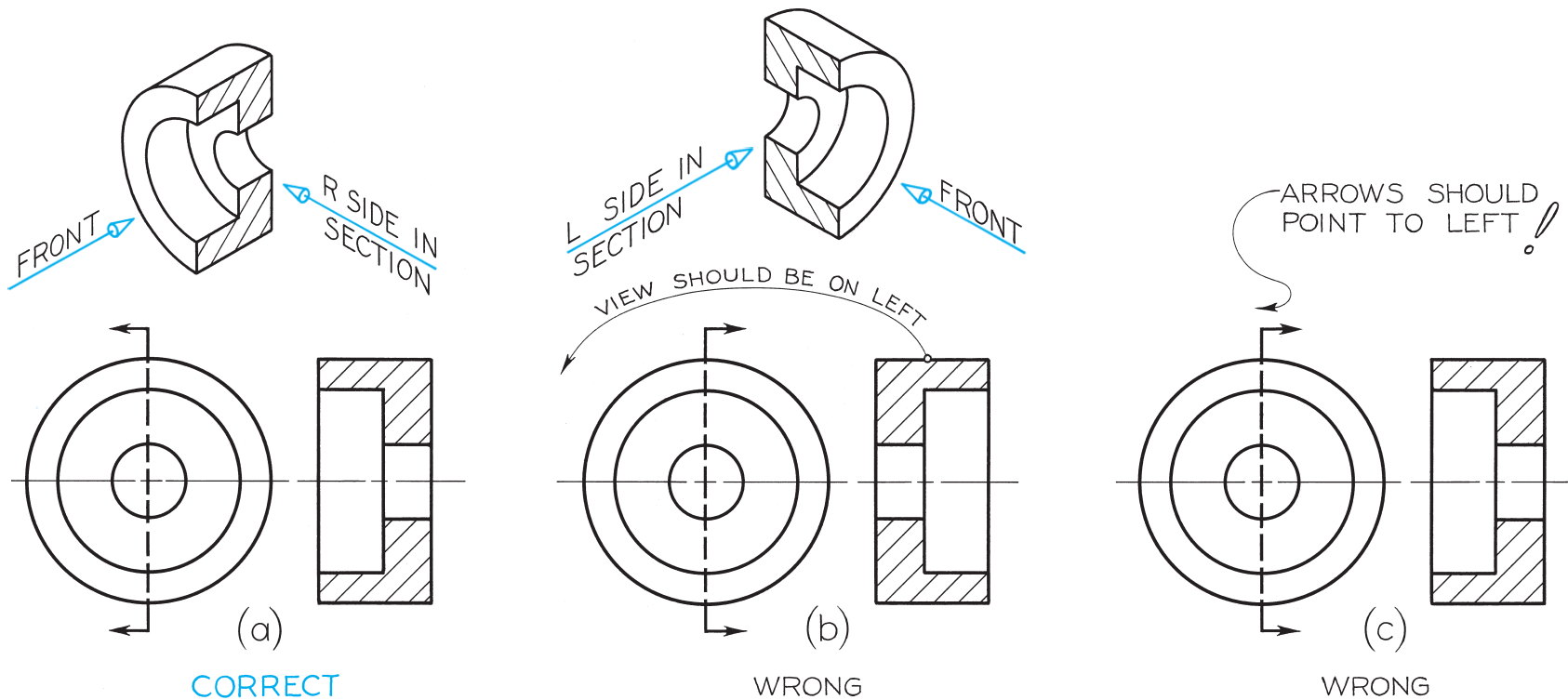


Figure 7-10
Cutting Planes and Sections.

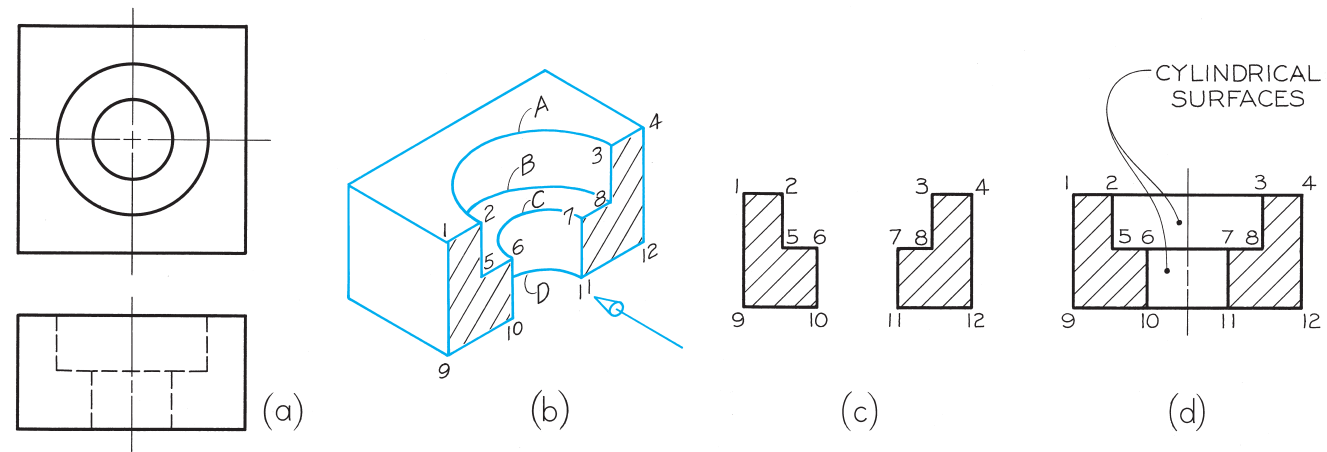
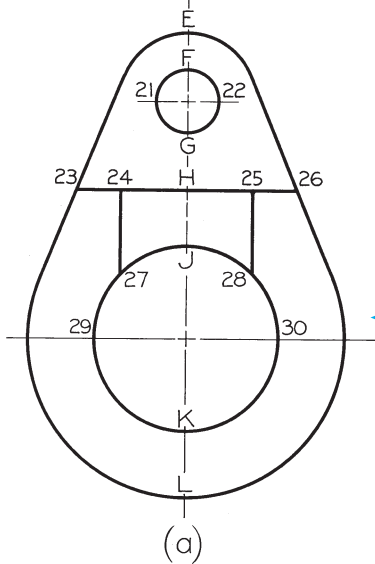
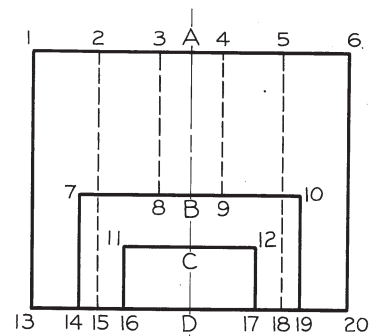


Figure 7-11
Visualizing a Section.



Numbers in pictorial correspond with those on sectional view.

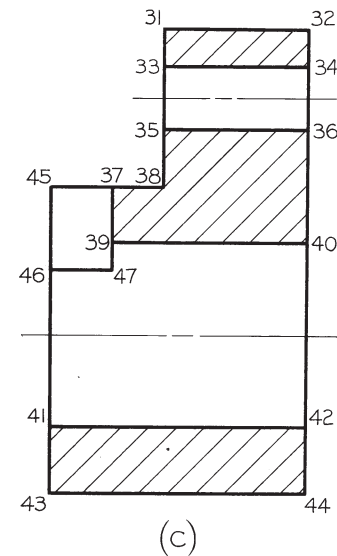
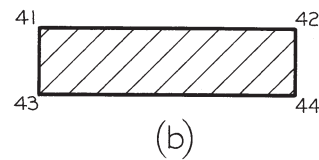
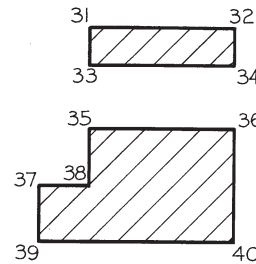
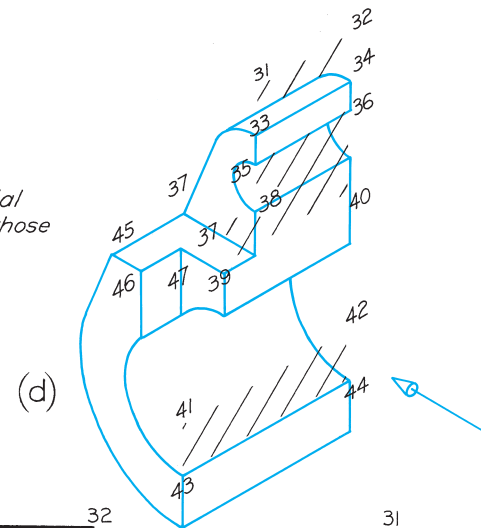


Figure 7-12
Drawing a Full Section.

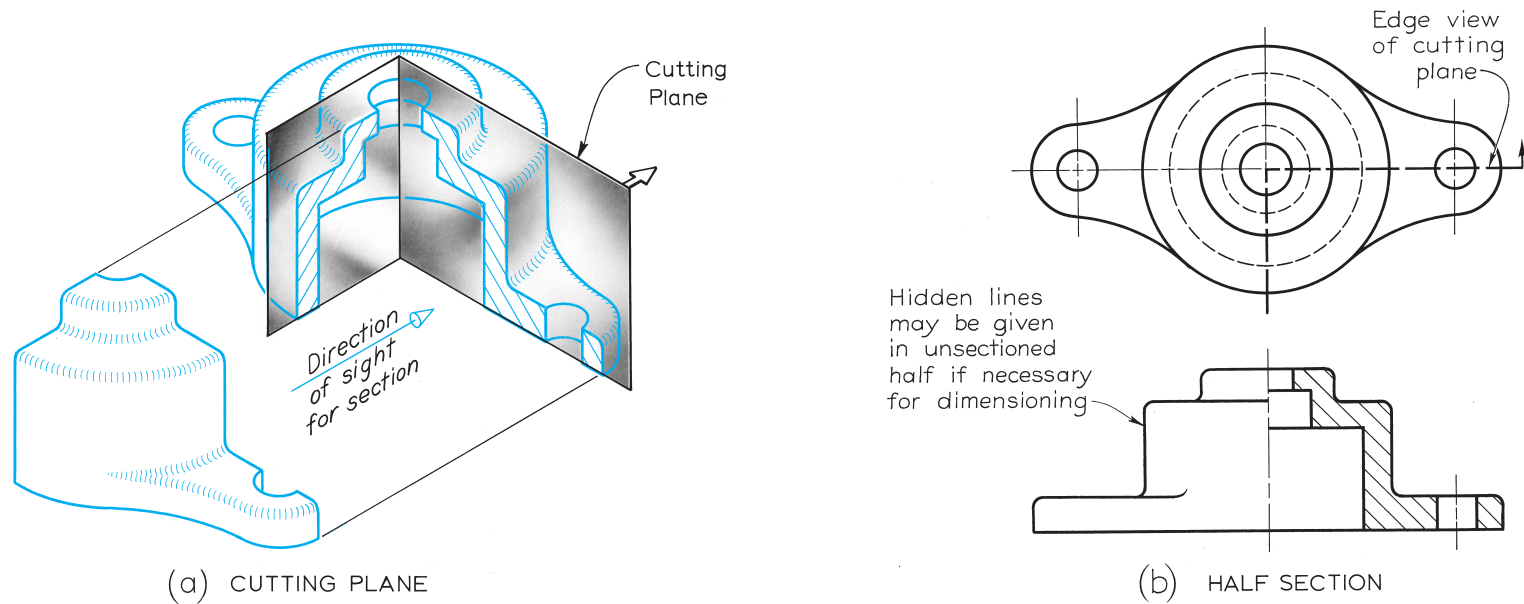


Figure 7-13
Half Section.

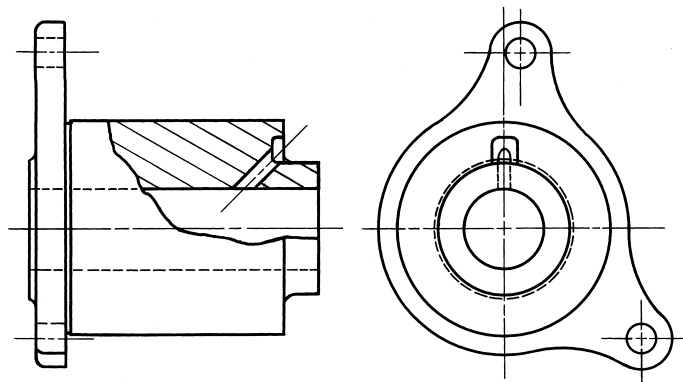


Figure 7-14
Broken-Out Section.

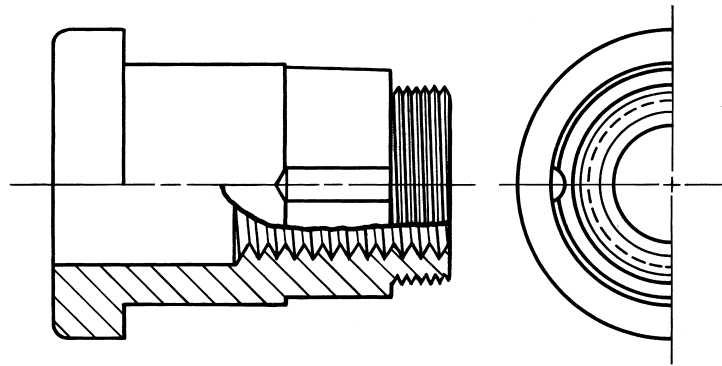


Figure 7-15
Break Around Keyway.

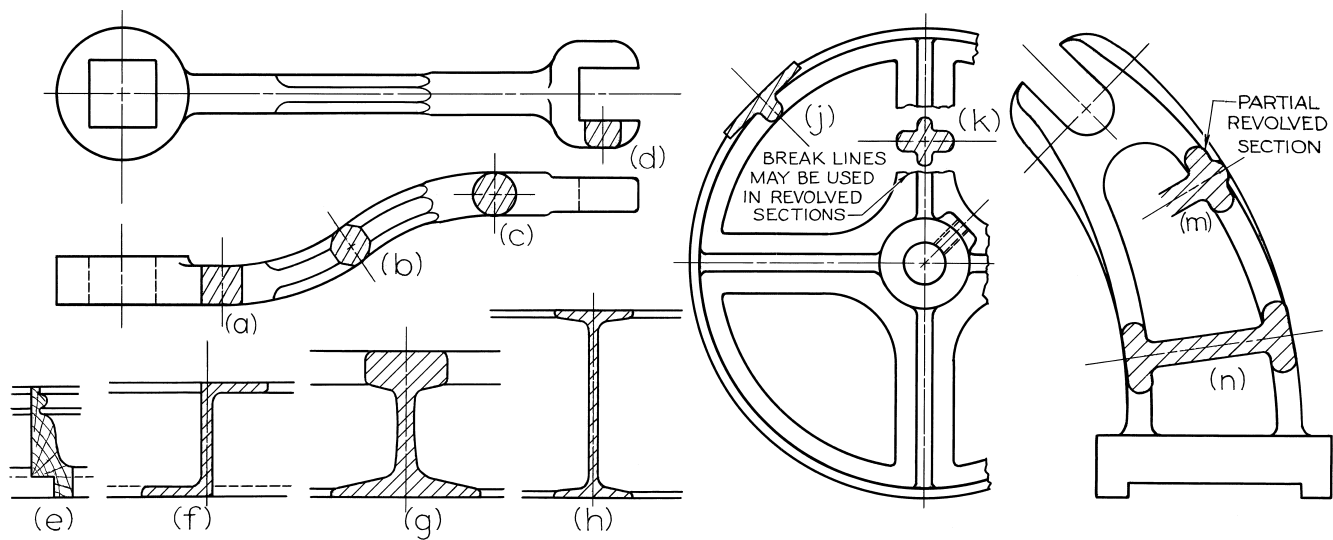


Figure 7-16
Revolved Sections.

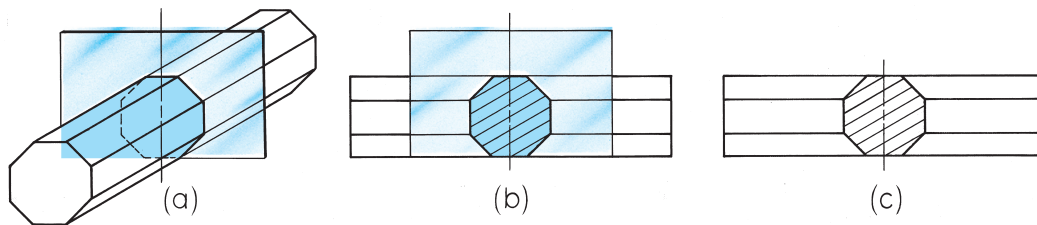


Figure 7-17
Use of the Cutting Plane in Revolved Sections.

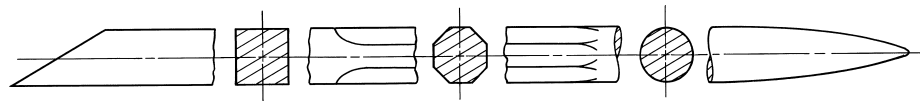


Figure 7-18
Conventional Breaks Used with Revolved Sections.

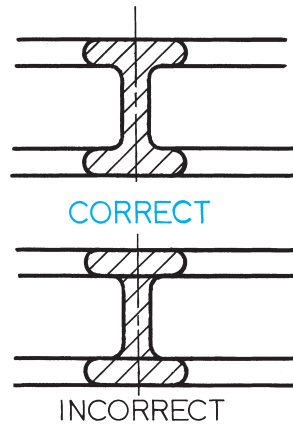


Figure 7-19
A Common Error in Drawing Revolved Sections.

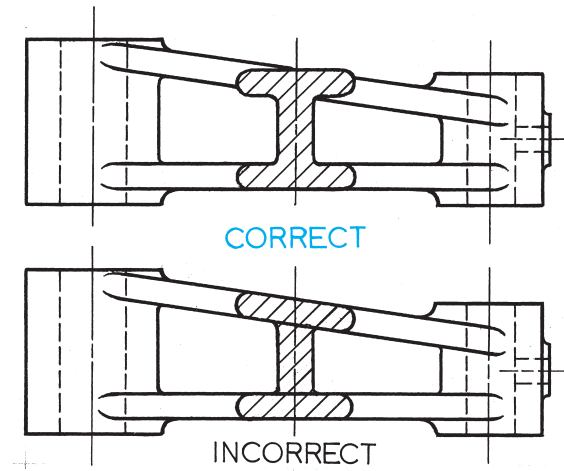


Figure 7-20
A Common Error in Drawing Revolved Sections.

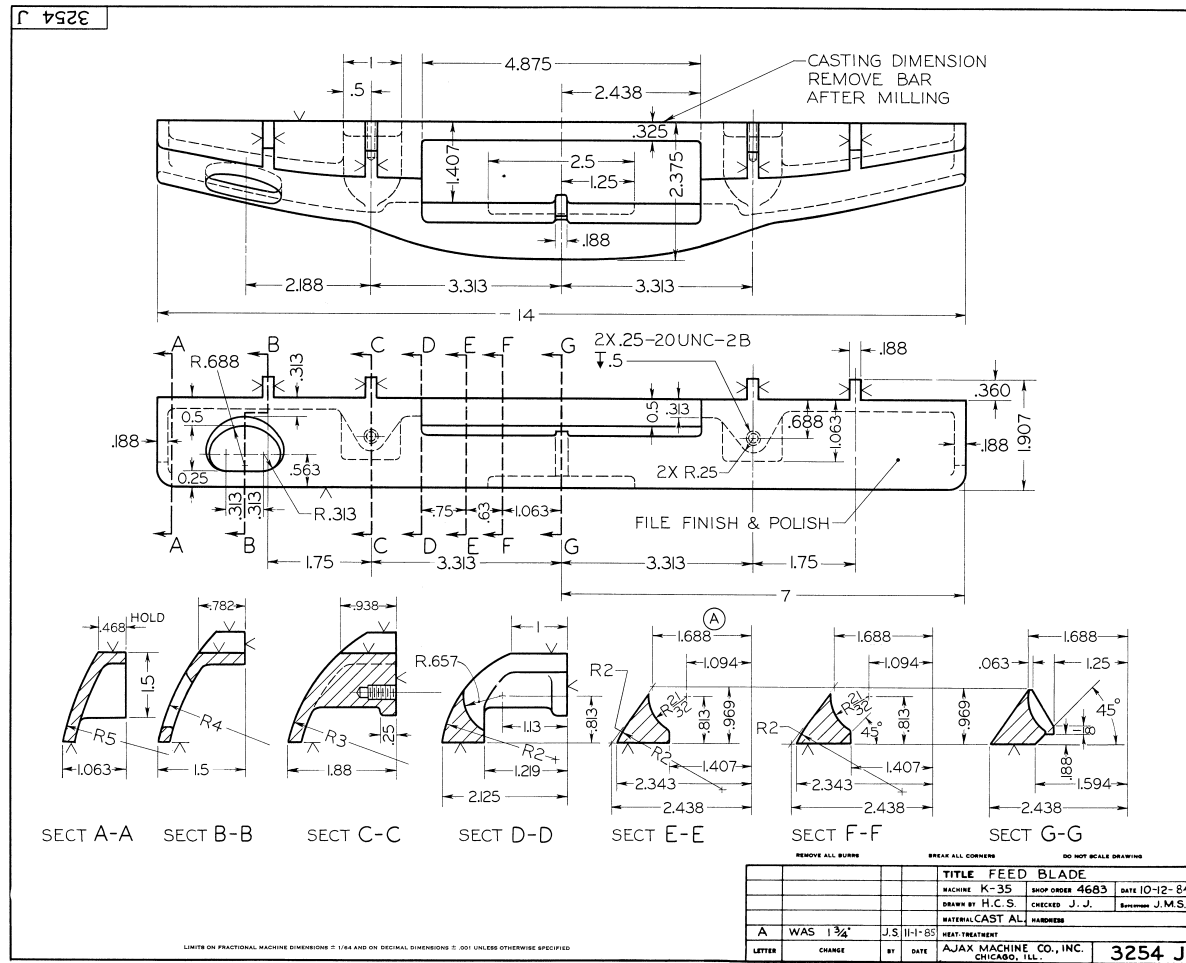


Figure 7-21
Removed Sections.

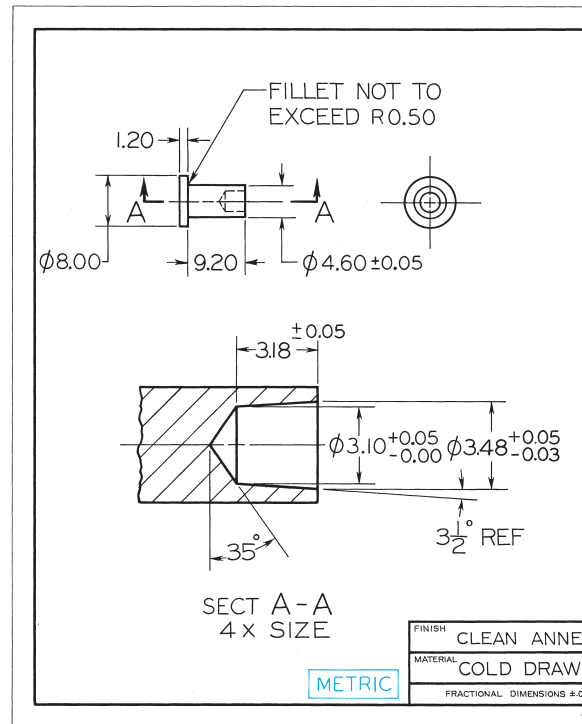


Figure 7-22
Removed Section.

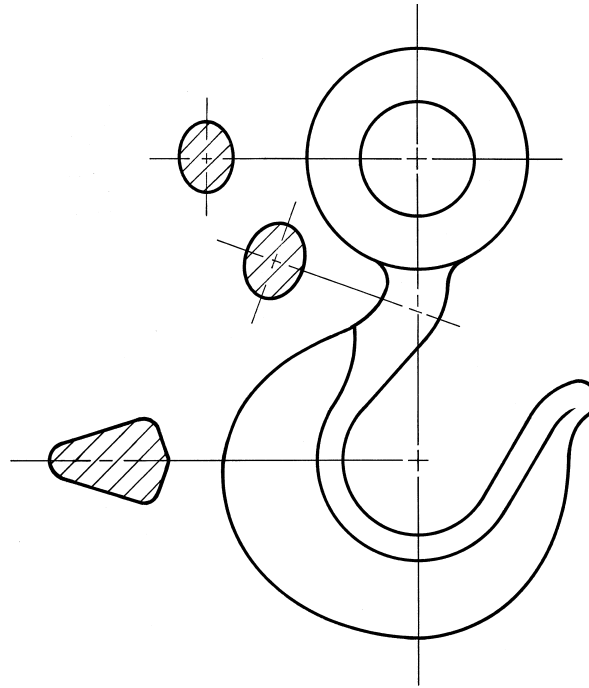
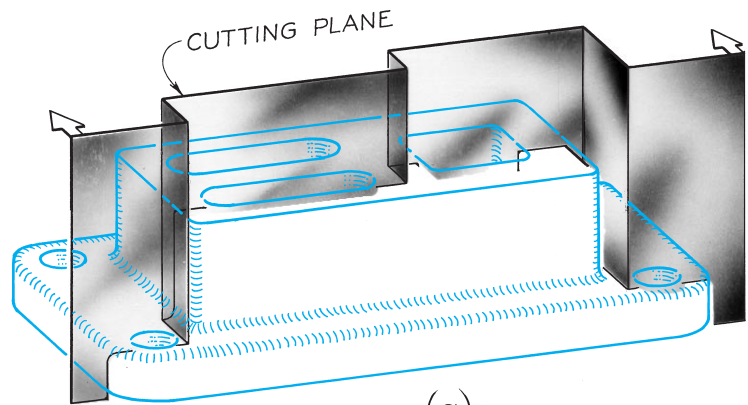
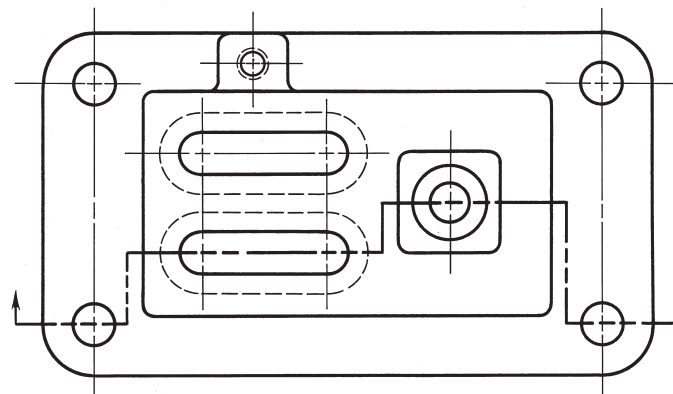


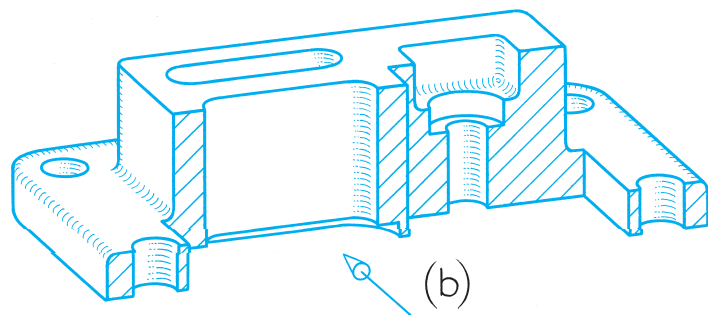
Figure 7-23
Removed Sections.



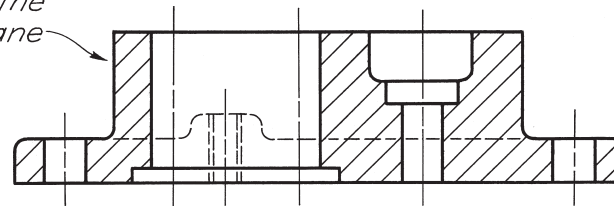
(a)



*Do not show
bends of the
cutting plane*



(b)



(c)

Figure 7-24
Offset Section.

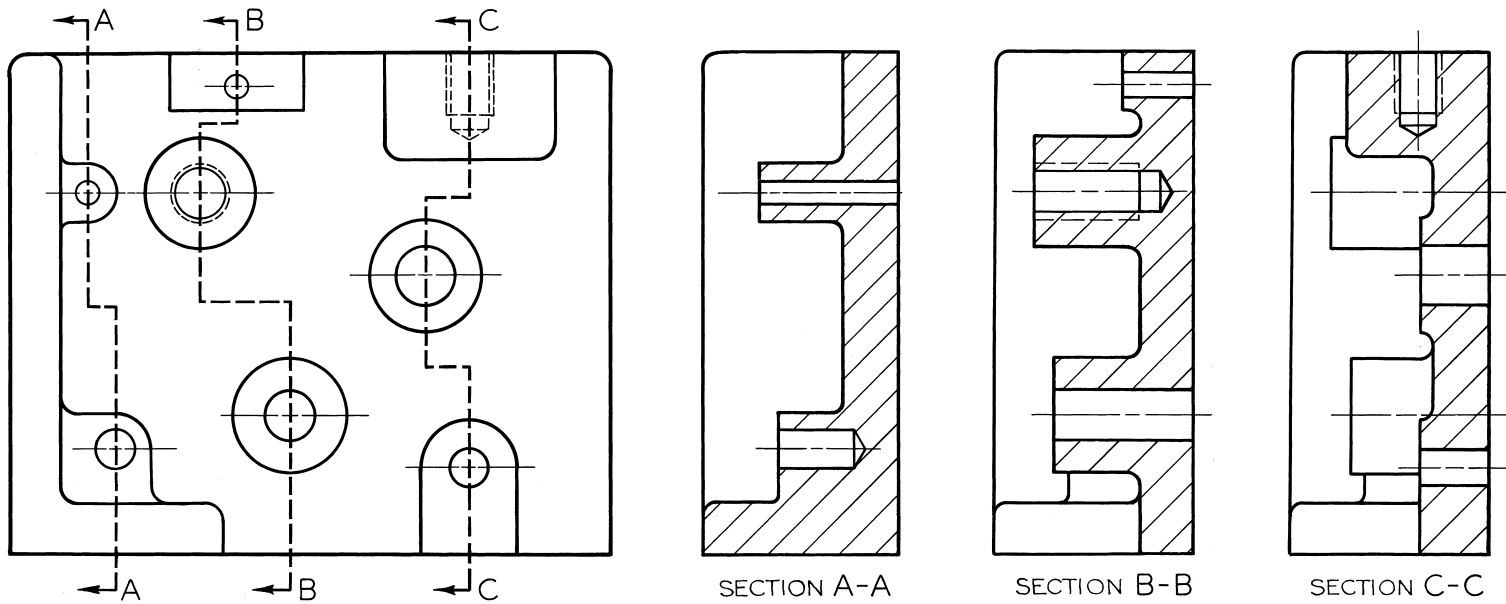


Figure 7-25
Three Offset Sections.

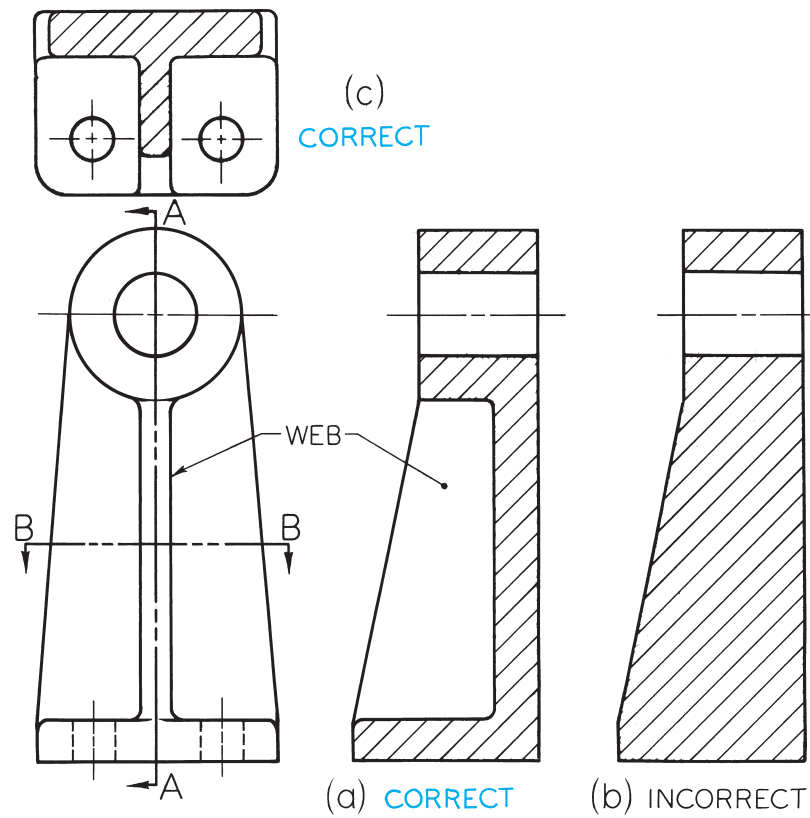


Figure 7-26
Webs in Section.

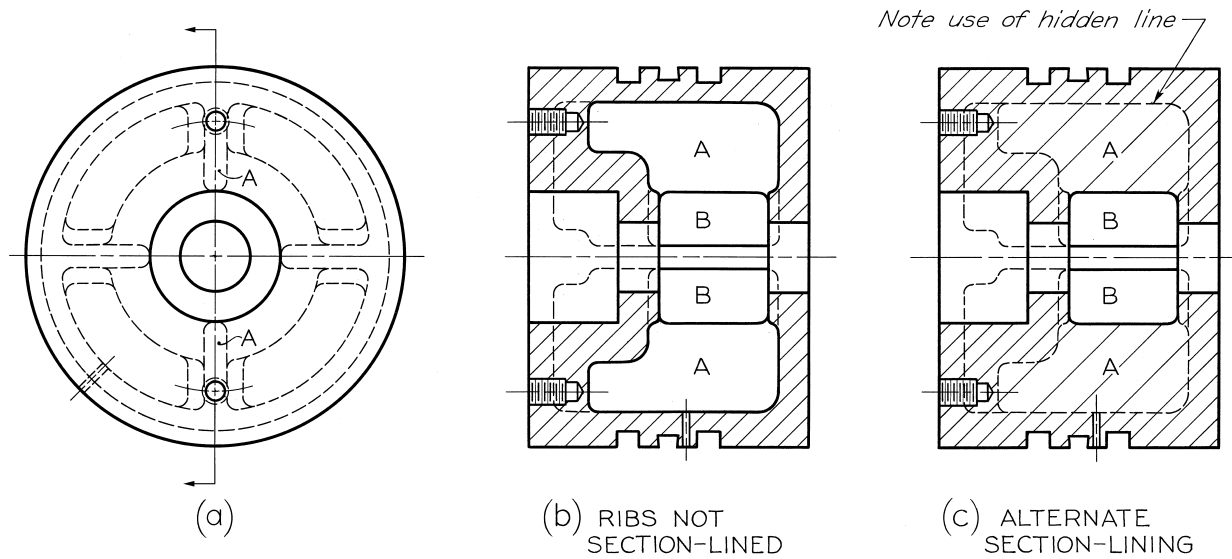


Figure 7-27
Alternate Section Lining.

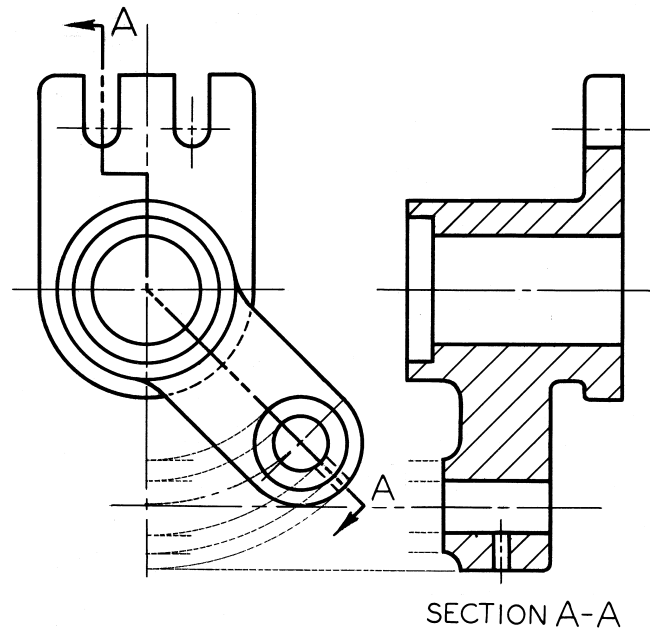


Figure 7-28
Aligned Section.

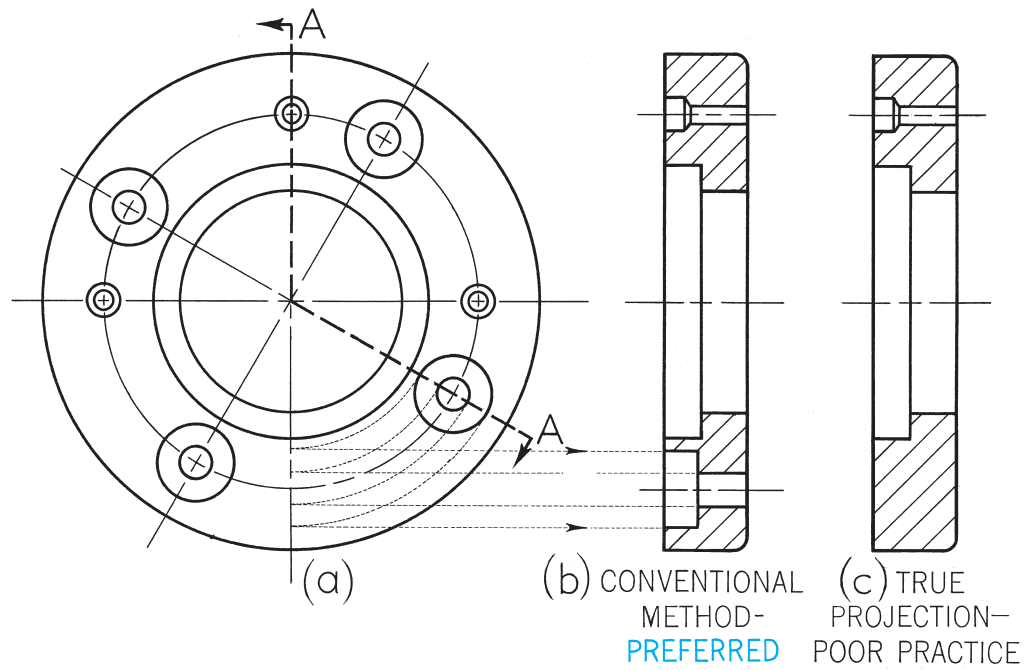


Figure 7-29
Aligned Section.

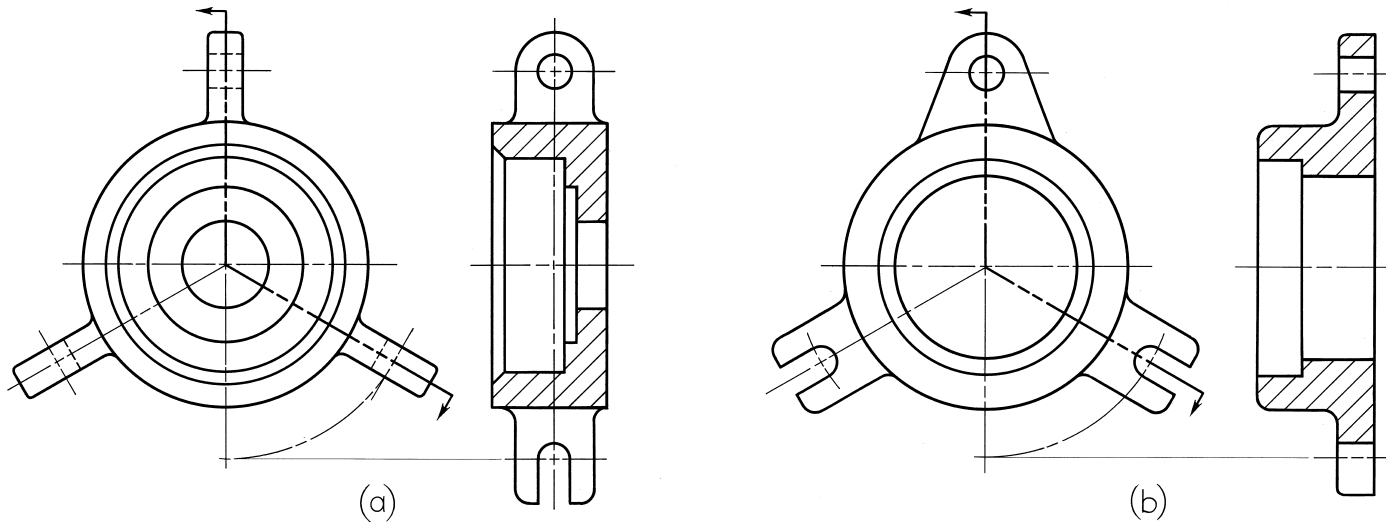


Figure 7-30
Aligned Sections.

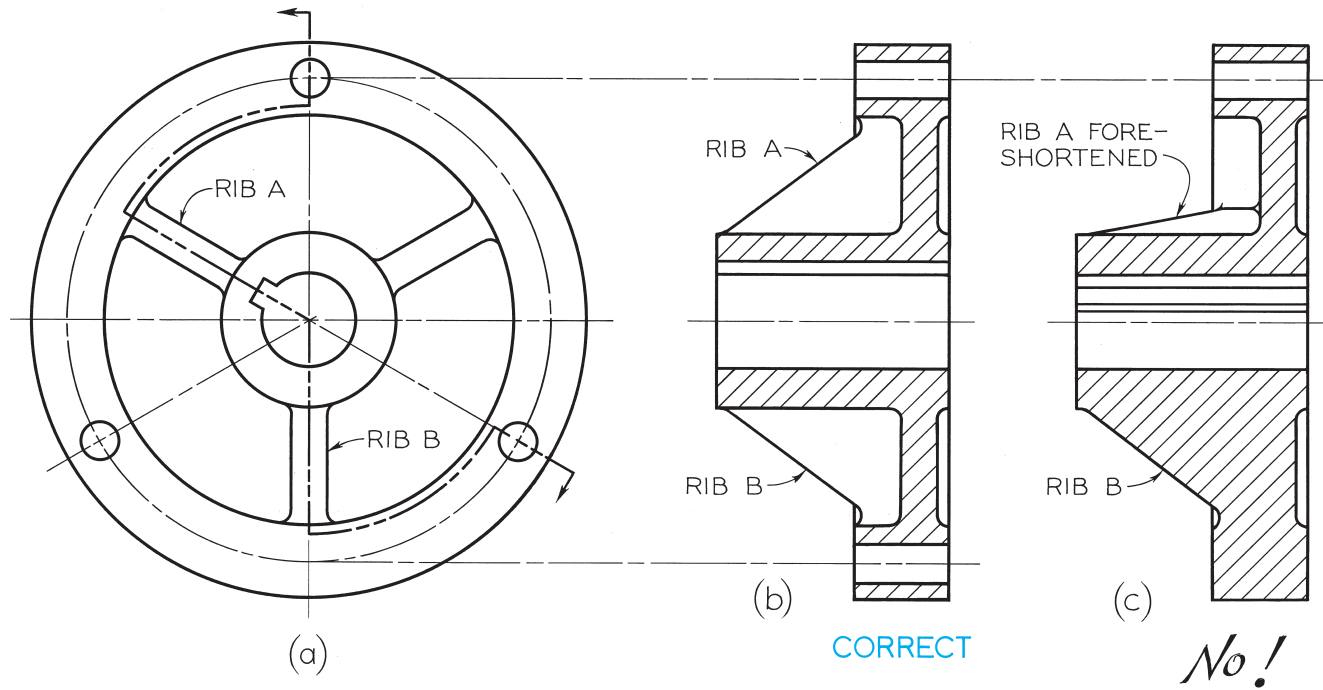


Figure 7-31
Symmetry of Ribs.

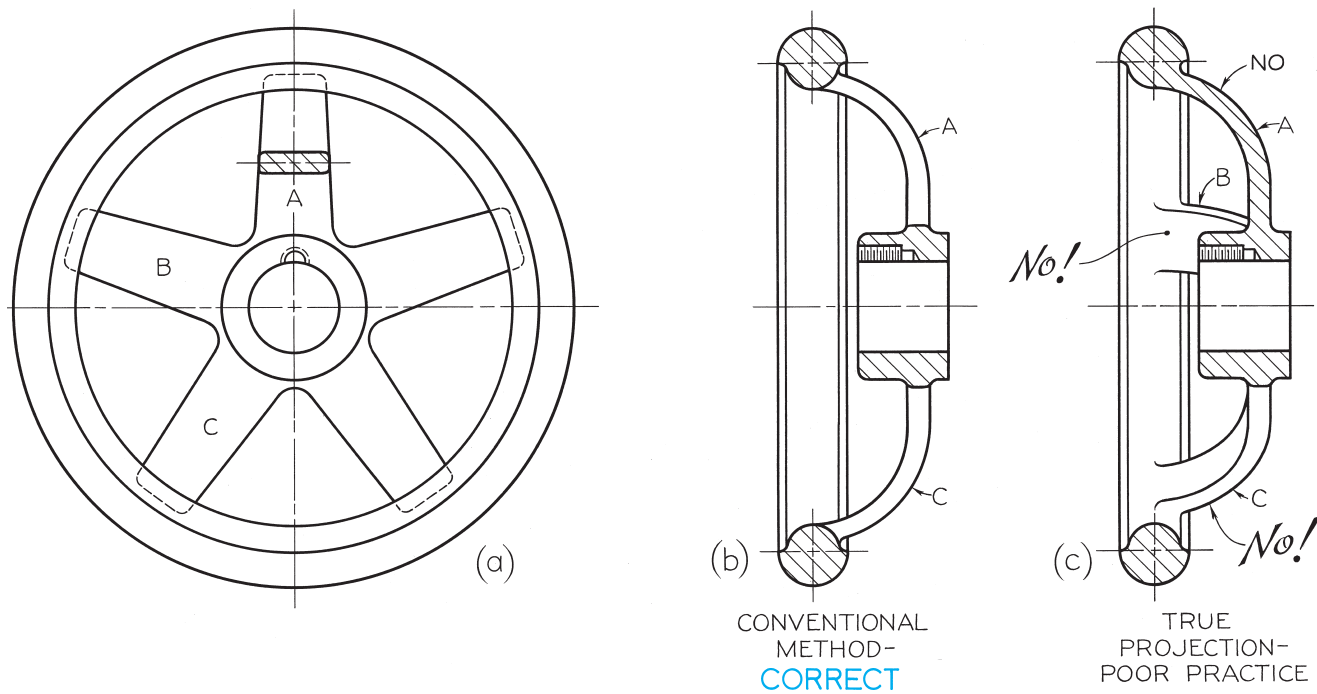


Figure 7-32
Spokes in Section.

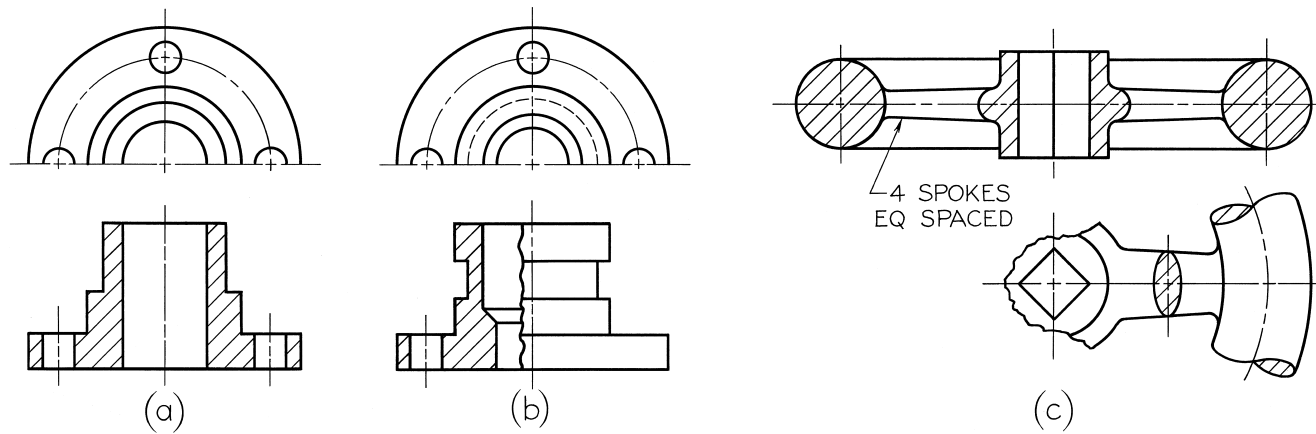


Figure 7-33
Partial Views.

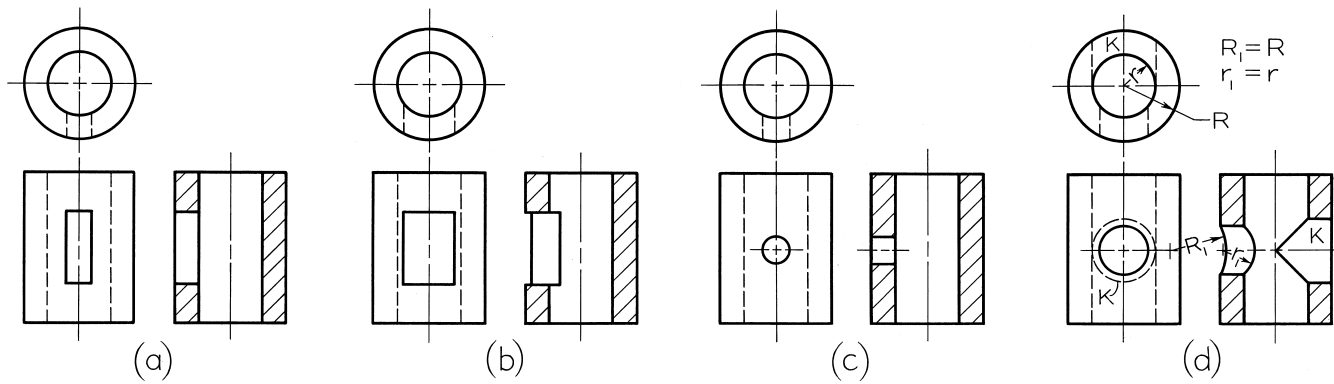


Figure 7-34
Intersections.

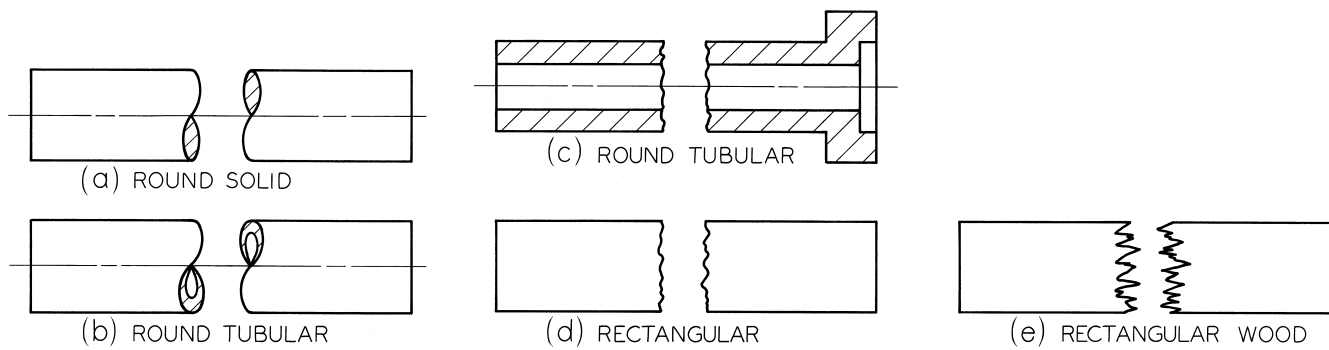


Figure 7-35
Conventional Breaks.

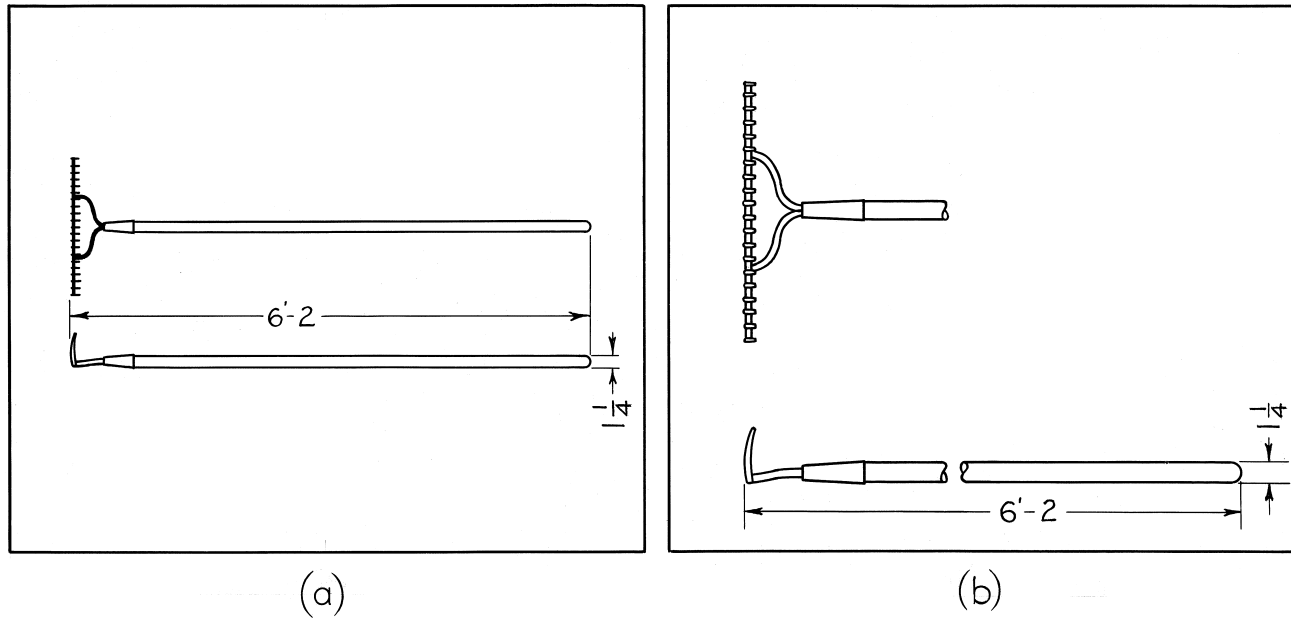


Figure 7-36
Use of Conventional Breaks.

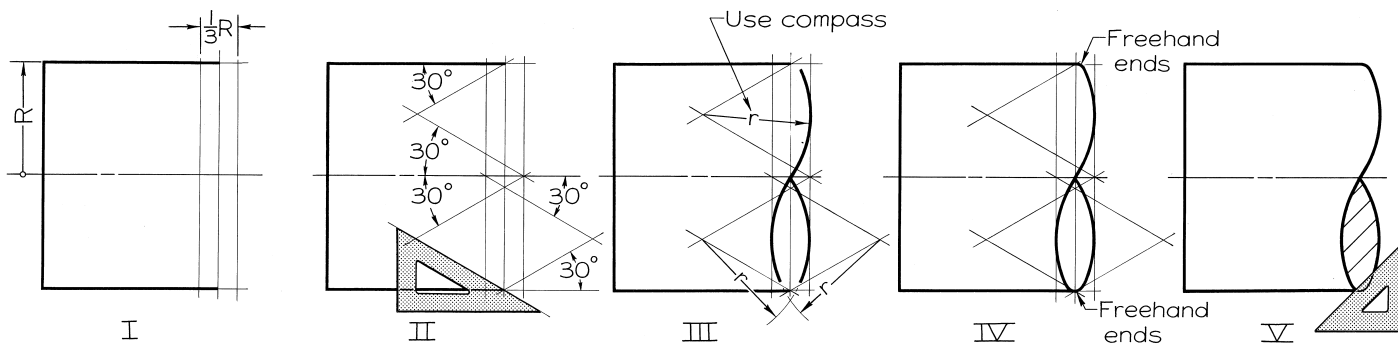


Figure 7-37

Steps in Drawing S-Breaks for Solid Shaft.

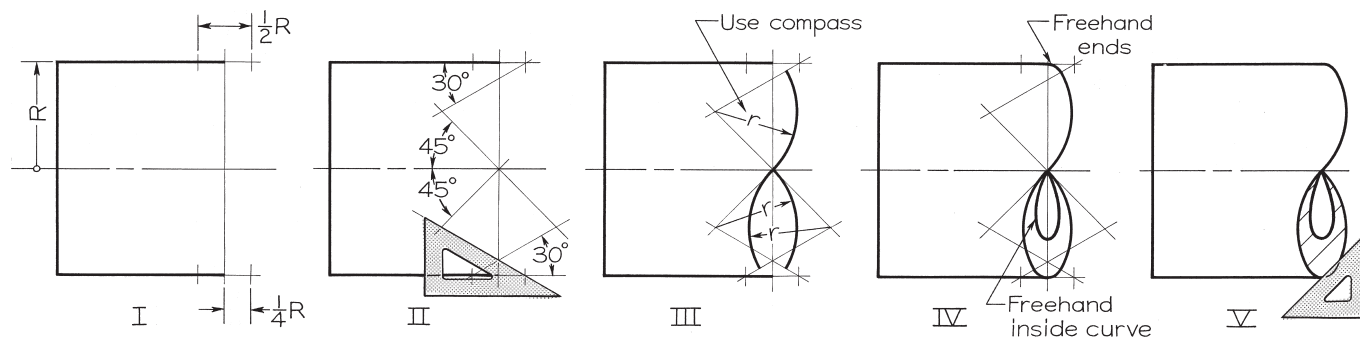


Figure 7-38
Steps in Drawing S-Breaks for Tubing.

NOTES:

- 1) MIN. TENSILE STRENGTH 5000 LBS. WHEN TAPPED WITH 7/16-20 THD. & PULLED AGAINST THE 1.070/1.062 DIA. SHOULDER THROUGH 53/64" HOLE IN THE TEST FIXTURE.
- 2) SAMPLES TO BE APPROVED BY THE MAREMONT CO.
- 3) MUST CONFORM TO ENGR. SPEC. 439034
- 4) INNER & OUTER CONTOUR ORIENTATION MUST BE AS SHOWN.

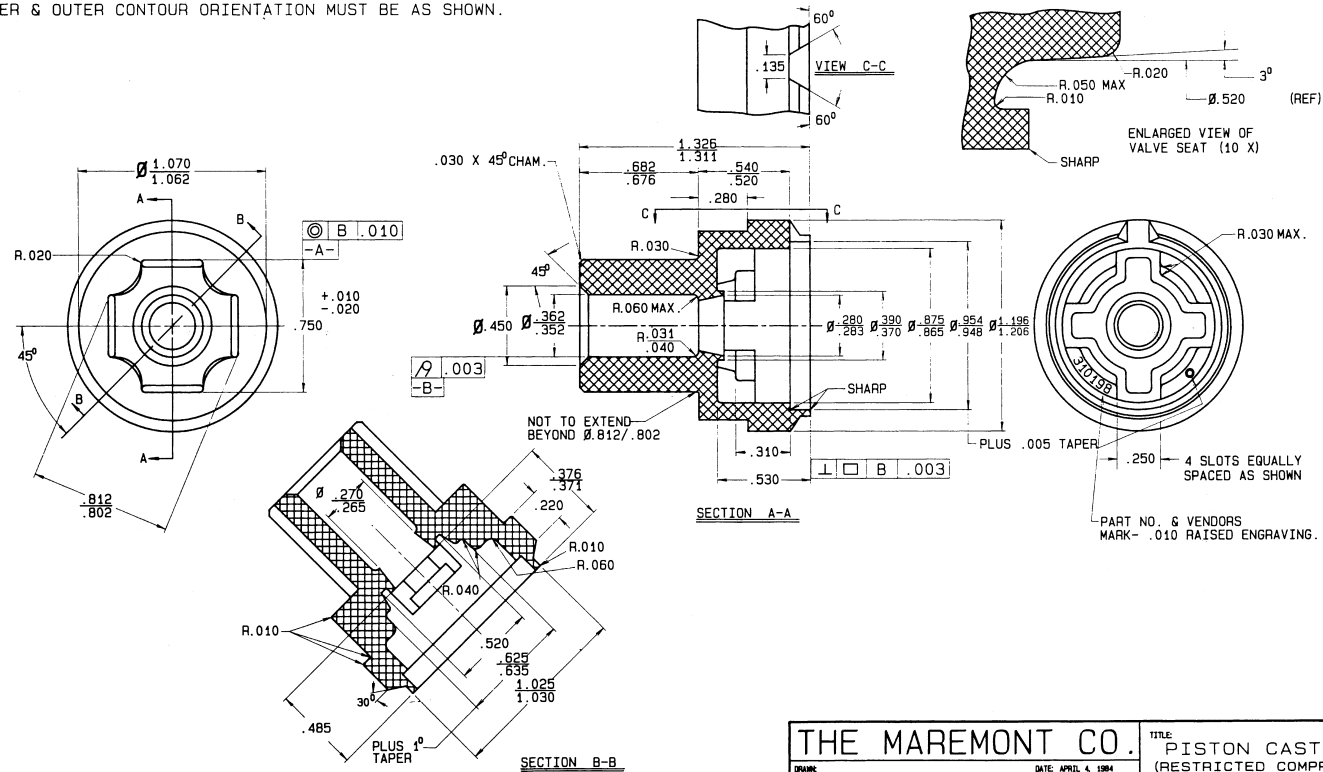


Figure 7-39

Detail Drawing Produced by Using the VersaCAD Advanced System. *Courtesy of VersaCAD.*

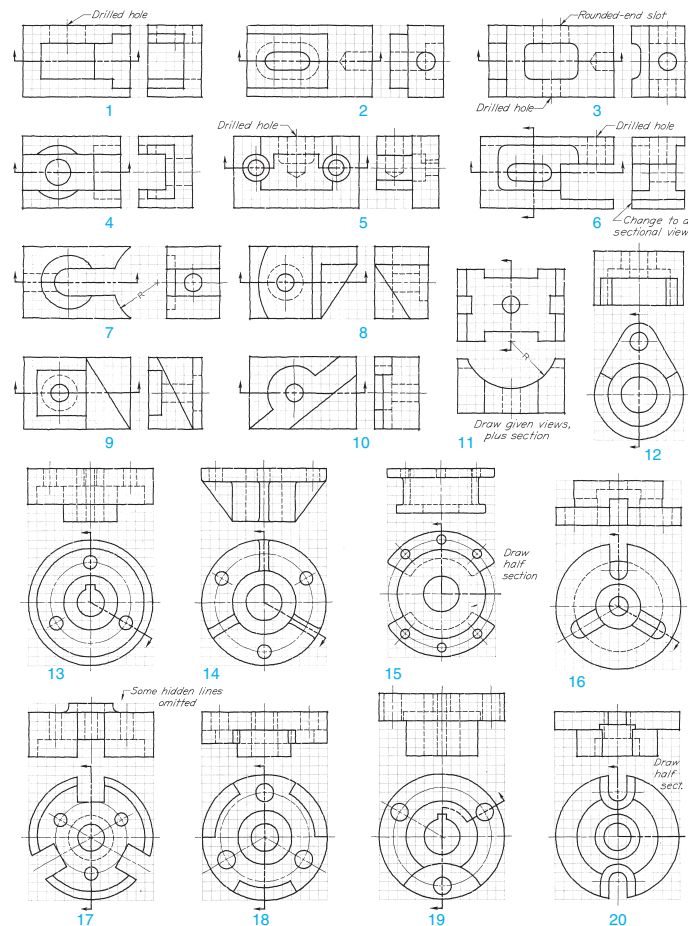


Figure 7-40

Freehand Sectioning Problems. Using Layout A-1 or A4-1 adjusted (freehand) on graph paper or plain paper, two problems per sheet, sketch views with sections as indicated. Each grid square = 6 mm ($\frac{1}{4}$ "). In Probs. 1–10, top and right-side views are given. Sketch front sectional views and then move right-side views to line up horizontally with front sectional views. Omit cutting planes except in Probs. 5 and 6.

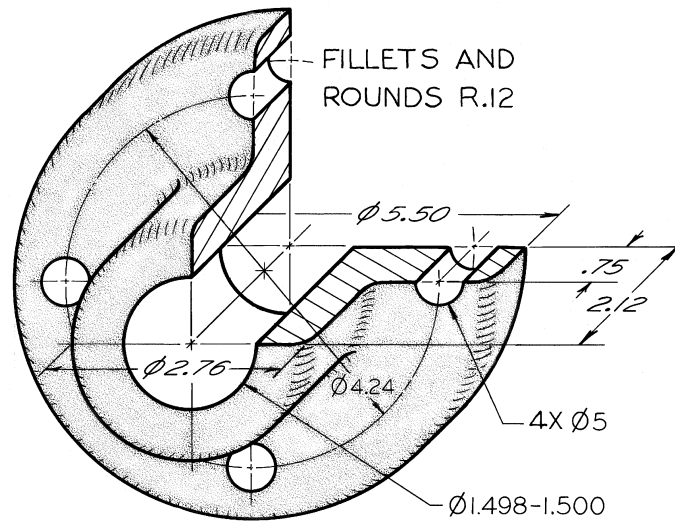


Figure 7-41

Bearing. Draw necessary views, with full section (Layout A-3).*

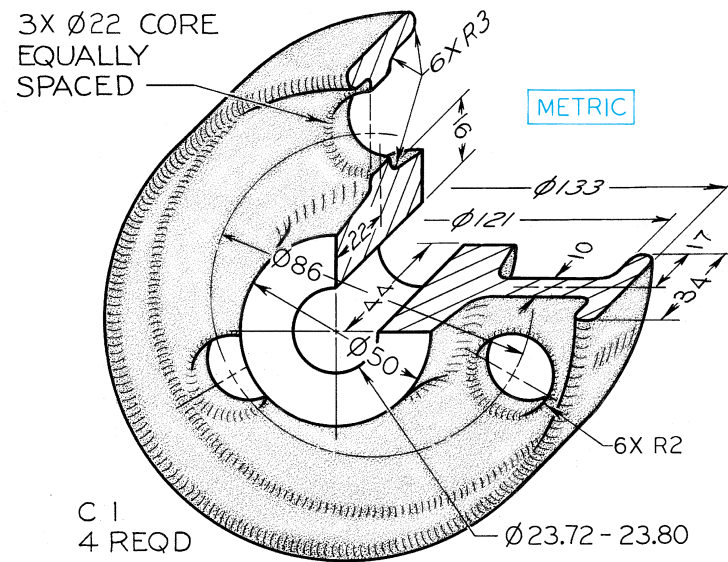


Figure 7-42

Truck Wheel. Draw necessary views, with half section (Layout A-3).*

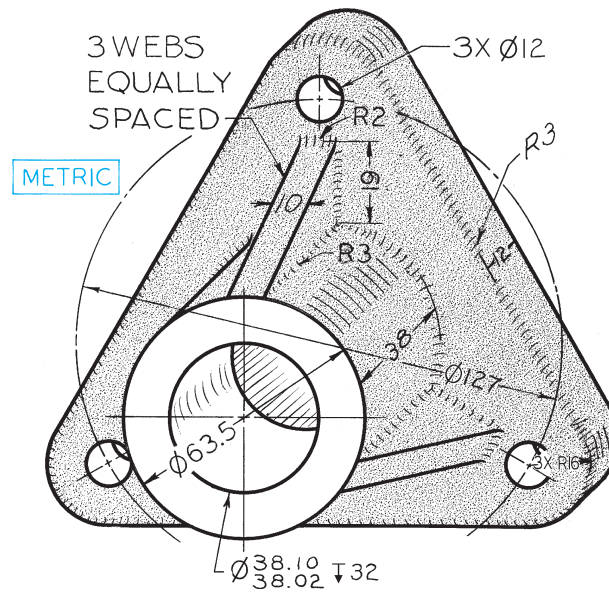


Figure 7-43

Column Support. Draw necessary views, with full section (Layout A-3).*

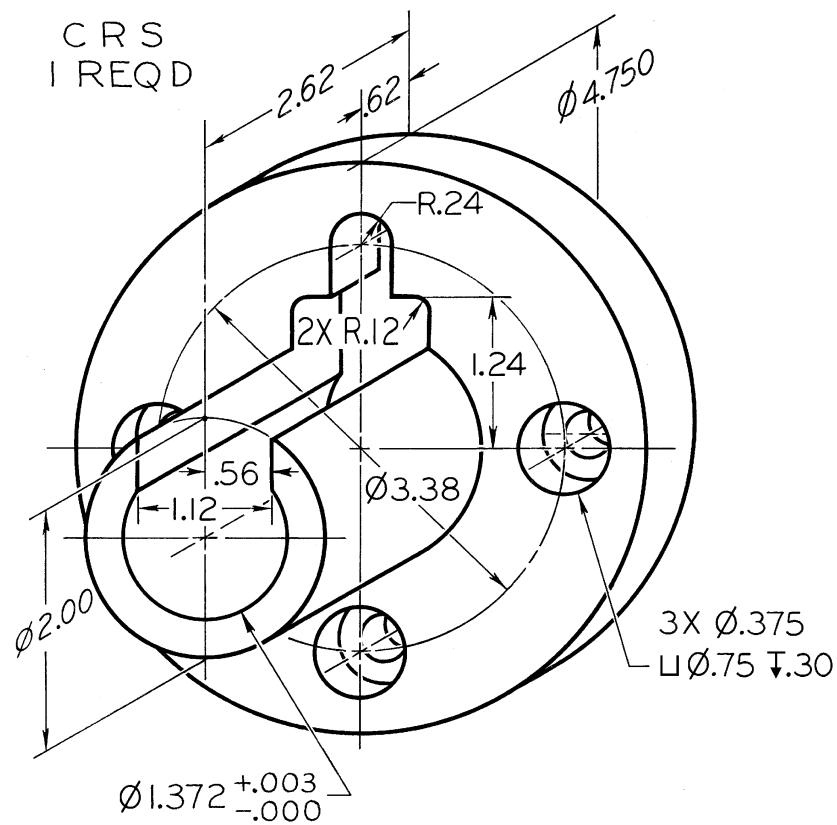


Figure 7-44

Centering Bushing. Draw necessary views, with full section (Layout A-3).*

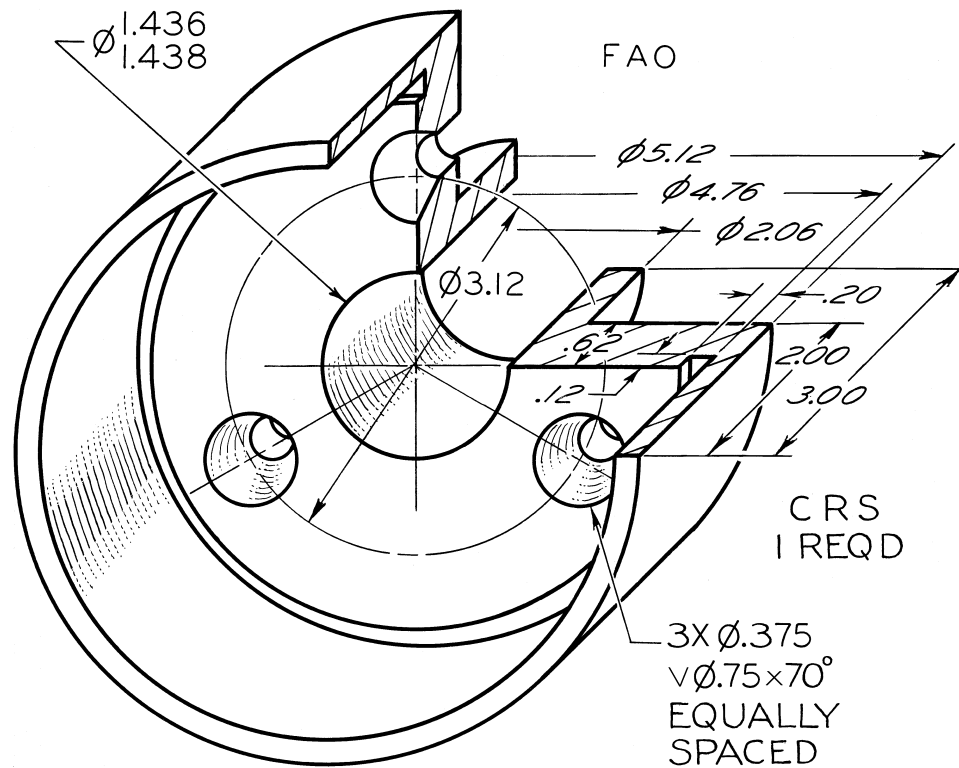


Figure 7-45

Special Bearing. Draw necessary views, with full section (Layout A-3).*

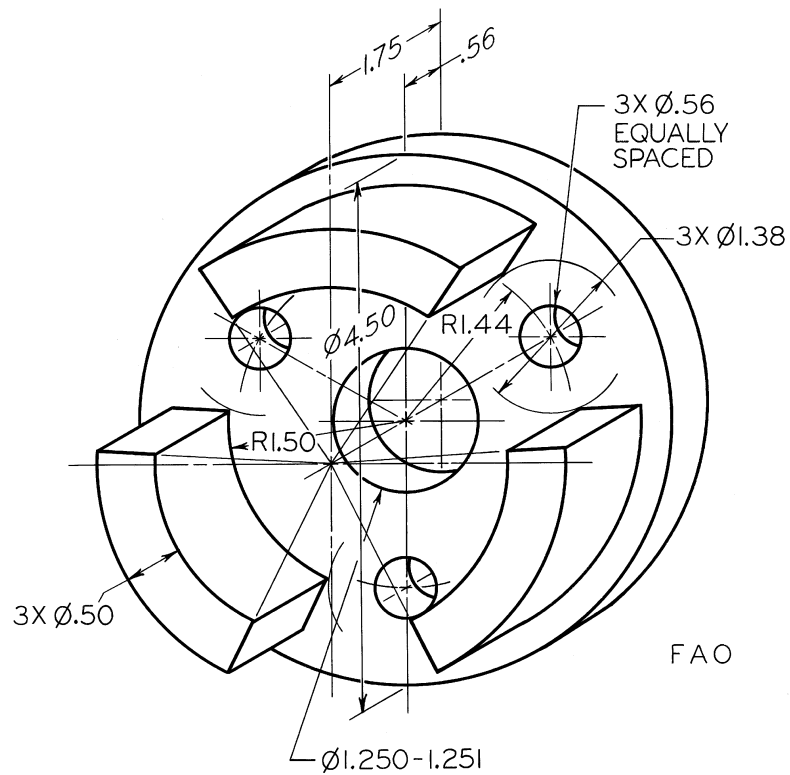


Figure 7-47

Cup Washer. Draw necessary views, with full section (Layout A-3 or A4-3 adjusted).*

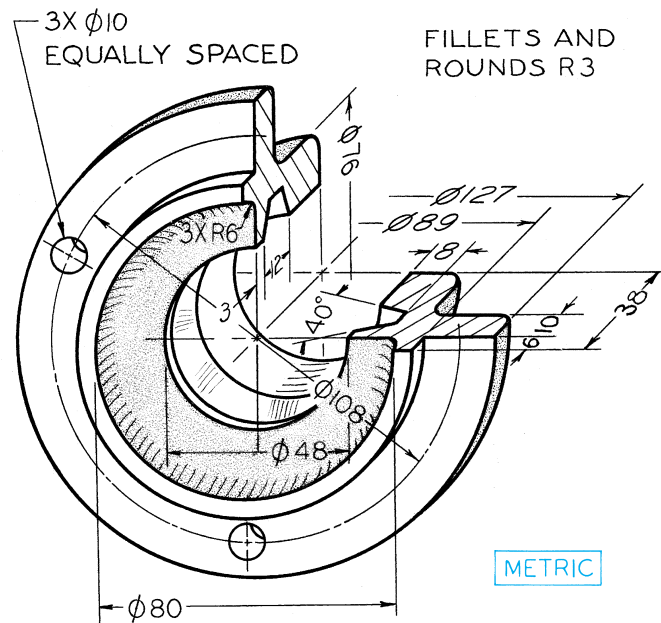


Figure 7-48

Fixed Bearing Cup. Draw necessary views, with full section (Layout A-3 or A4-3 adjusted).*

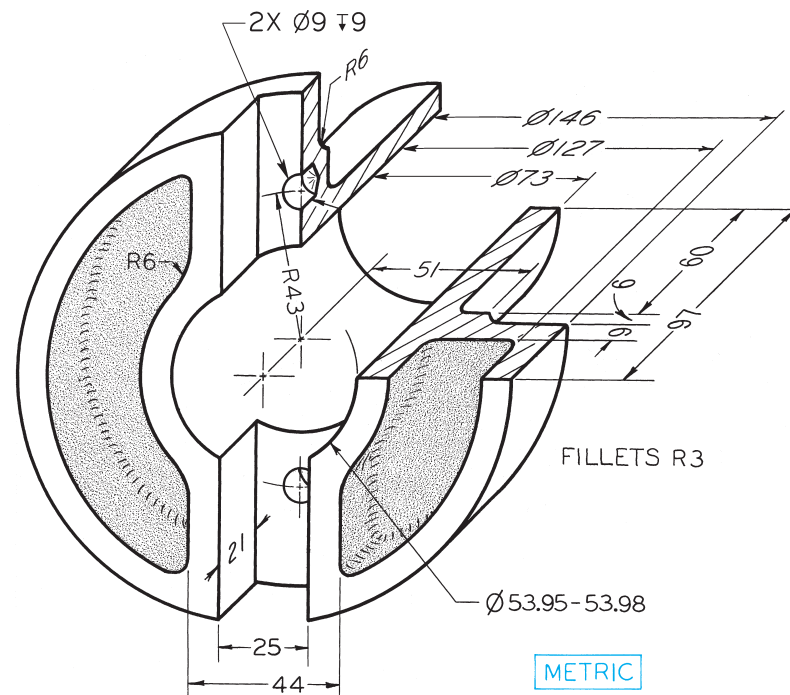


Figure 7-49

Stock Guide. Draw necessary views, with half section (Layout B-4 or A3-4 adjusted).*

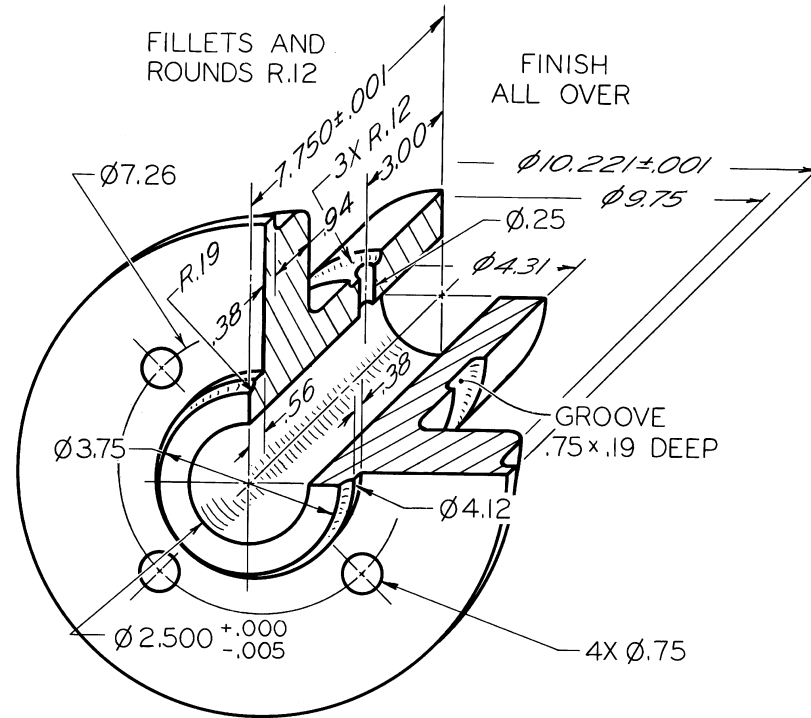


Figure 7-50

Bearing. Draw necessary views, with half section.
Scale: half size (Layout B-4 or A3-4 adjusted).*

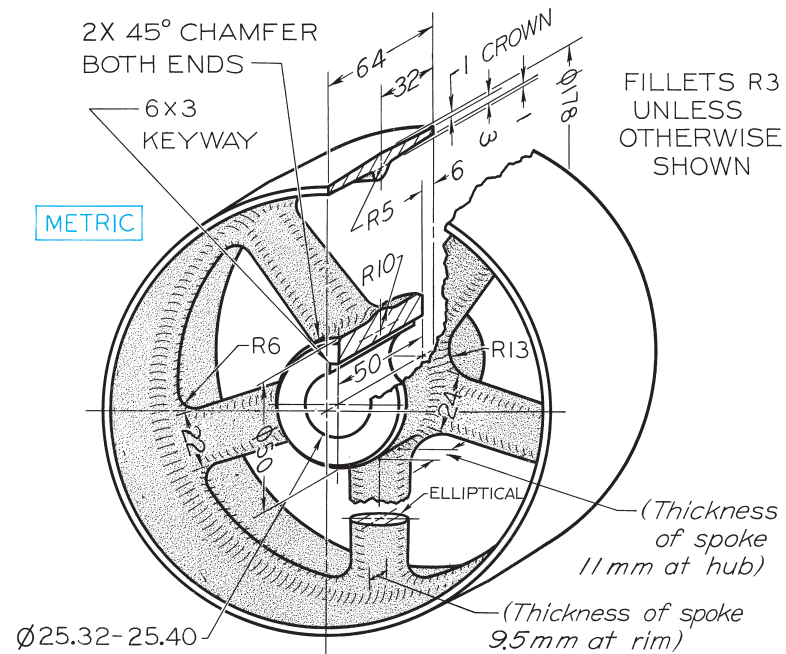


Figure 7-51

Pulley. Draw necessary views, with full section, and revolved section of spoke (Layout B-4 or A3-4 adjusted).*

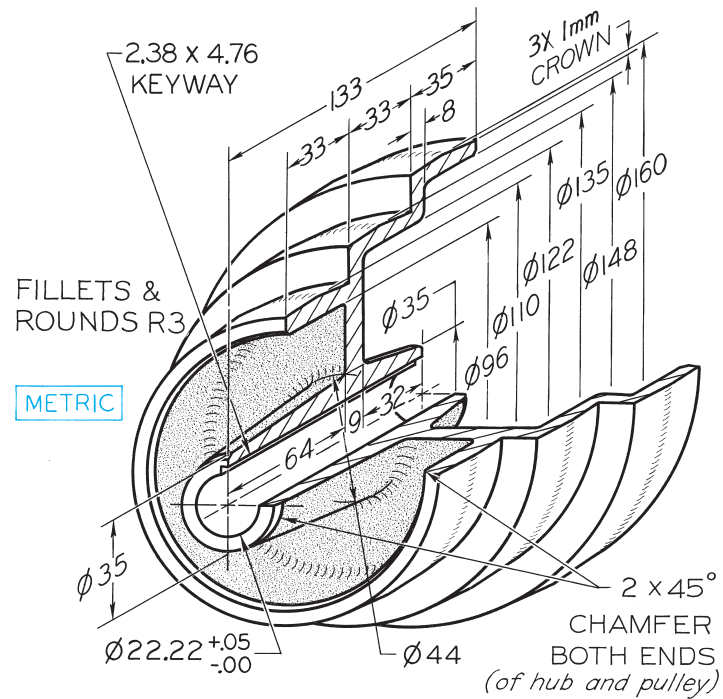


Figure 7-52

Step-Cone Pulley. Draw necessary views, with full section (Layout B-4 or A3-4 adjusted).*

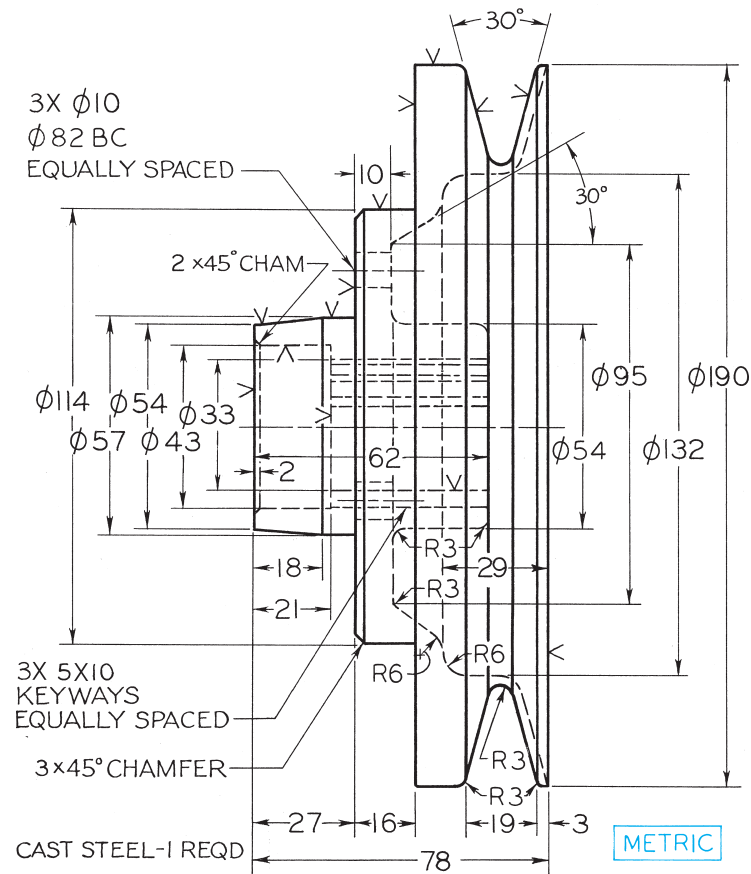


Figure 7-53

Sheave. Draw two views, including half section (Layout B-4).*

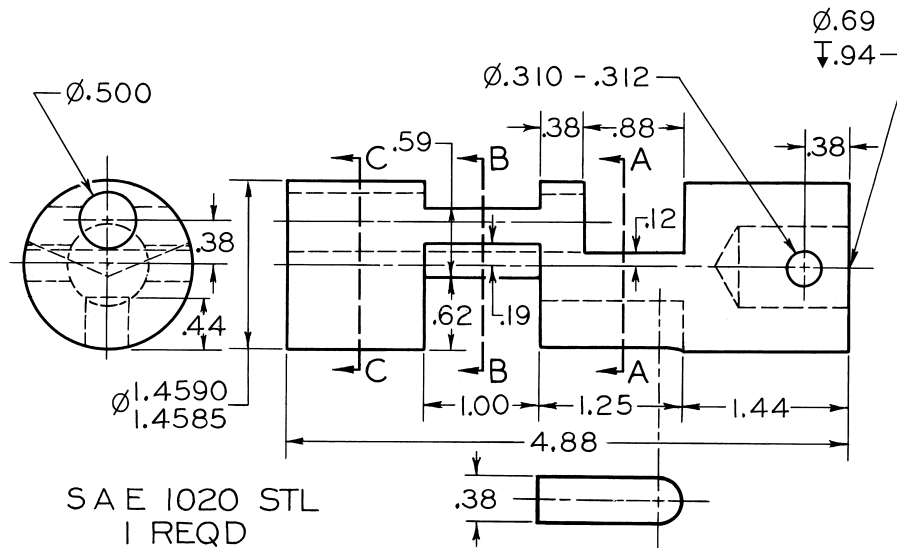


Figure 7-54

Operating Valve. Given: Front, left-side, and partial bottom views. Required: Front, right-side, and full bottom views, plus indicated removed sections (Layout B-4).*

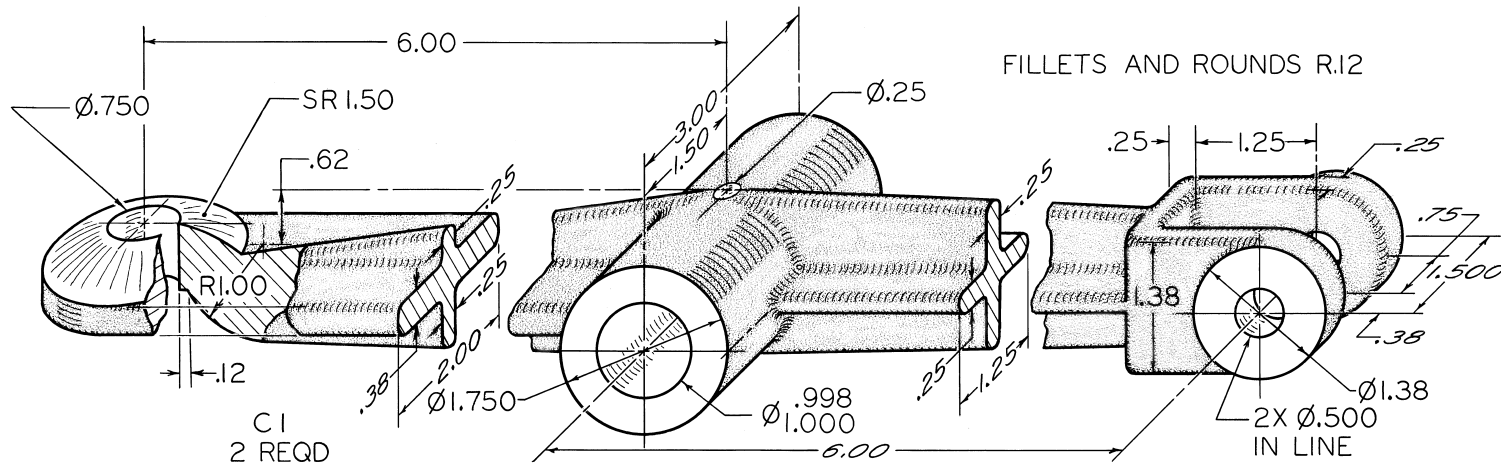


Figure 7-55

Rocker Arm. Draw necessary views, with revolved sections (Layout B-4).*

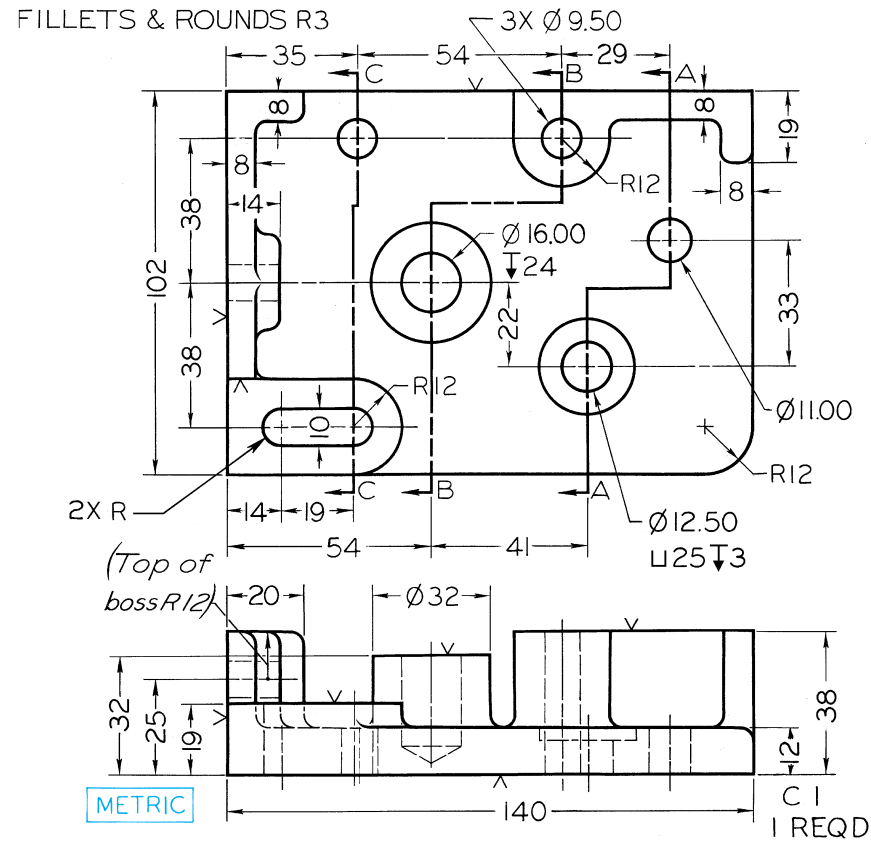


Figure 7-57

Adjuster Base. Given: Front and top views.

Required: Front and top views and sections A-A, B-B, and C-C.

Show all visible lines (Layout B-4).*

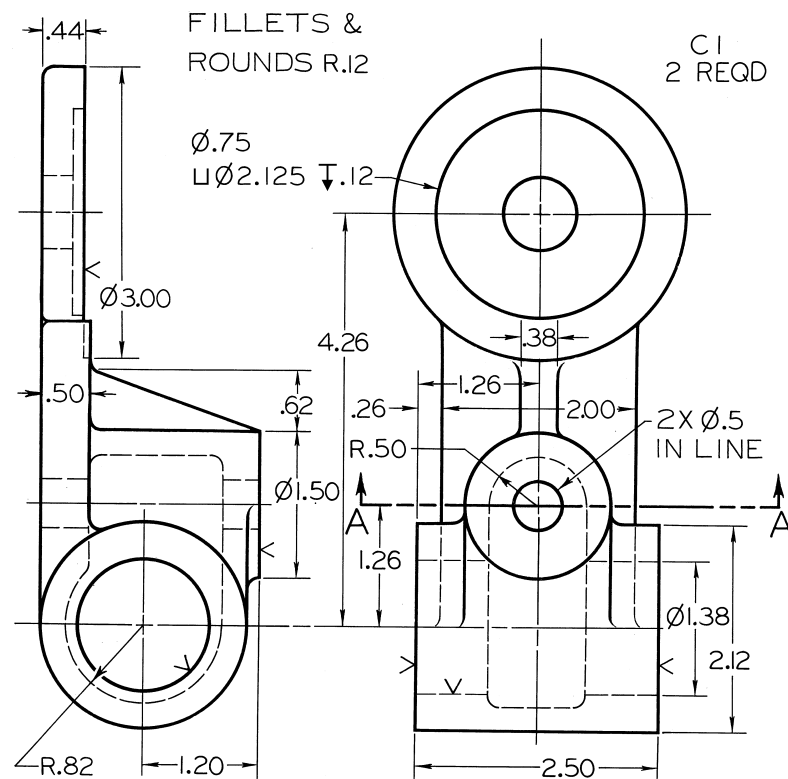


Figure 7-58

Mobile Housing. Given: Front and left-side views.
 Required: Front view, right-side view in full section,
 and removed section A-A (Layout B-4).*

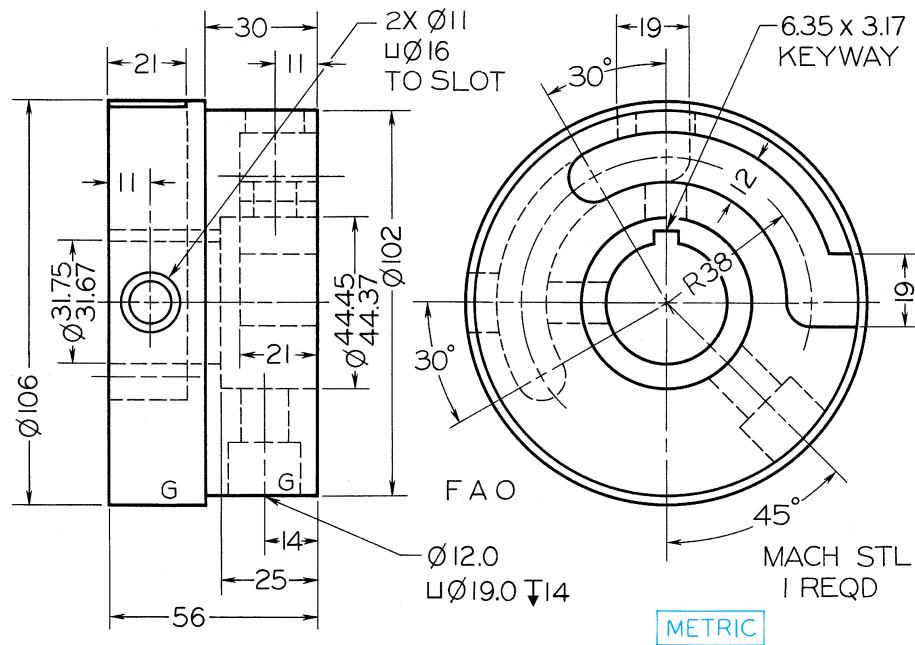


Figure 7-61

Traverse Spider. Given: Front and left-side views.
Required: Front and right-side views and top view
in full section (Layout B-4 or A3-4 adjusted).*

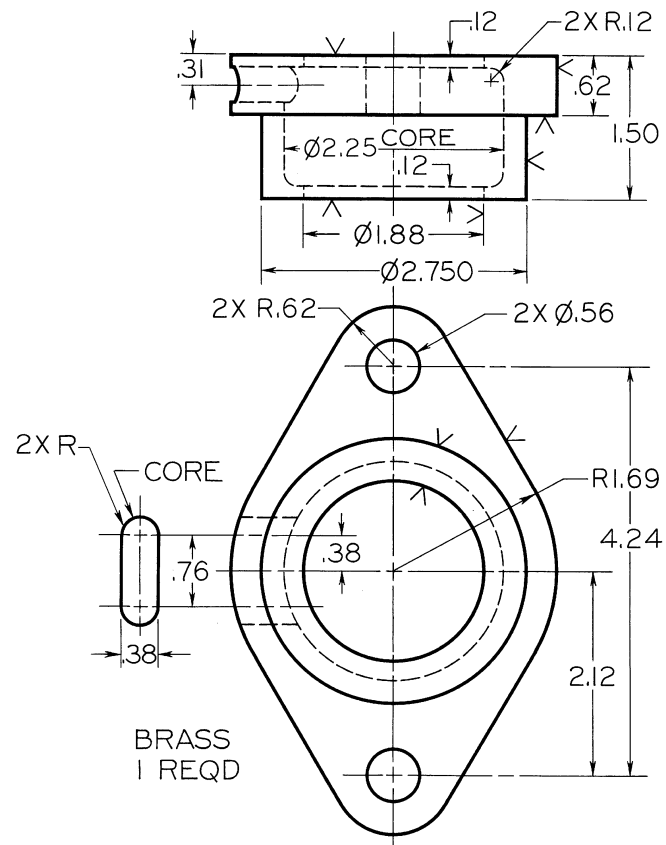


Figure 7-62

Gland. Given: Front, top, and partial left-side views.
Required: Front view and right-side view in full section
(Layout A-3 or A4-3 adjusted).*



Required: Take front as new top; then add right-side view, front view in full section A–A, and sections B–B and C–C (Layout B–4 or A3–4 adjusted).*

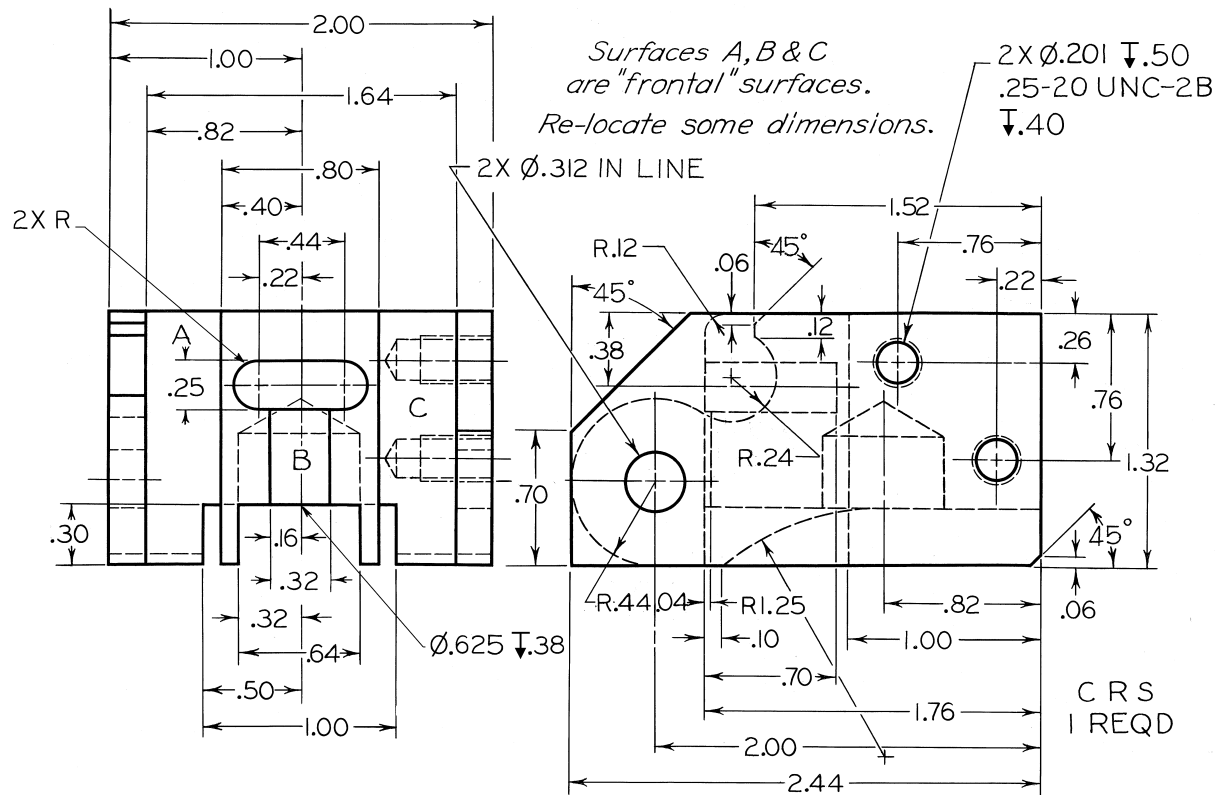


Figure 7-64

Cocking Block. Given: Front and right-side views. Required: Take front as new top view; then add new front view, and right-side view in full section. Draw double size on Layout C-4 or A2-4 adjusted.*

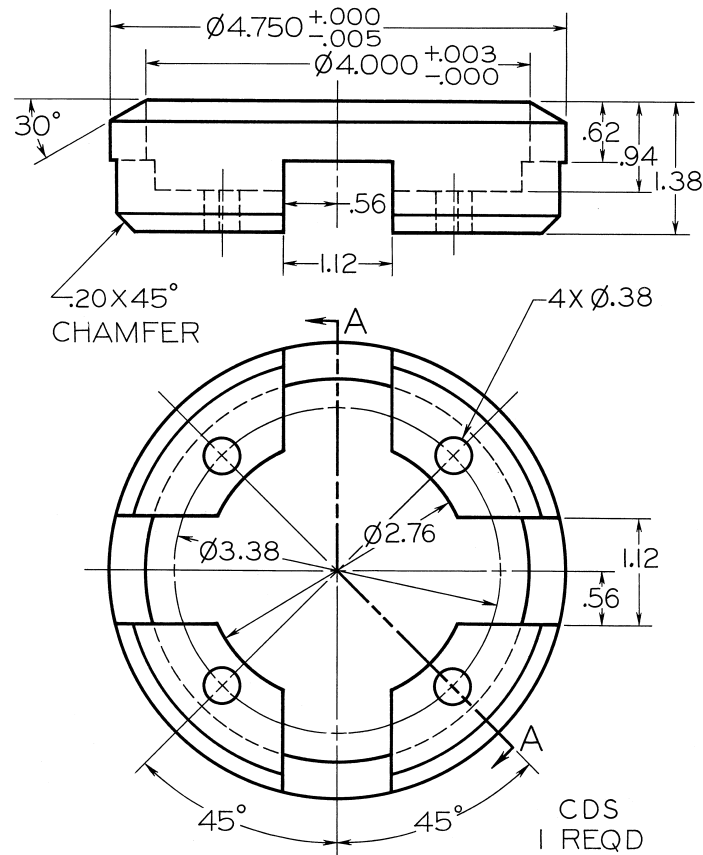


Figure 7-65

Packing Ring. Given: Front and top views. Required: Front view and section A-A (Layout A-3 or A4-3 adjusted).*

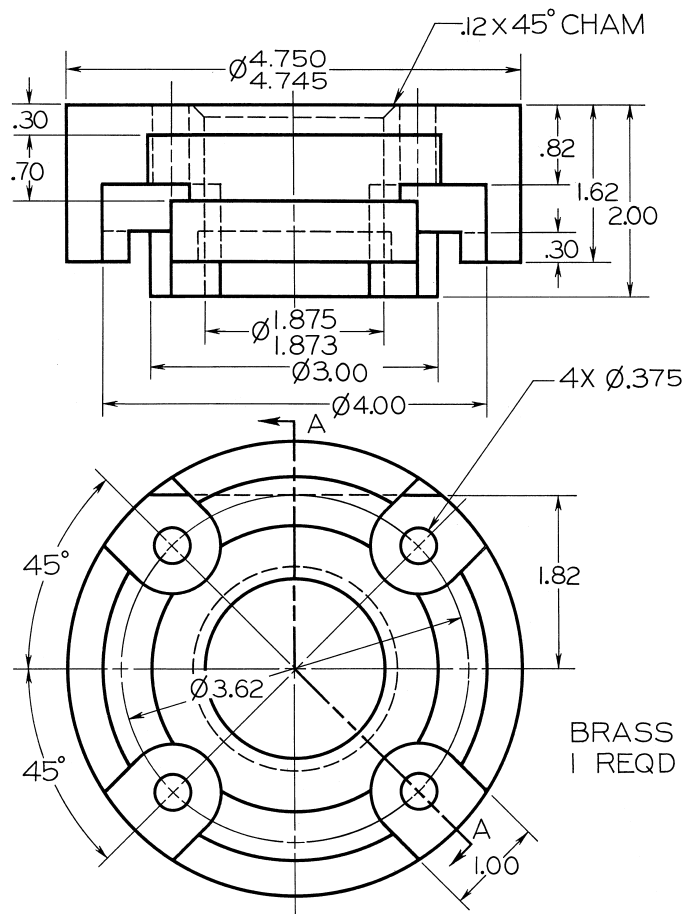
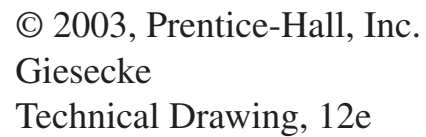


Figure 7-67

Oil Retainer. Given: Front and top views.

Required: Front view and section A-A (Layout B-4 or A3-4 adjusted).*



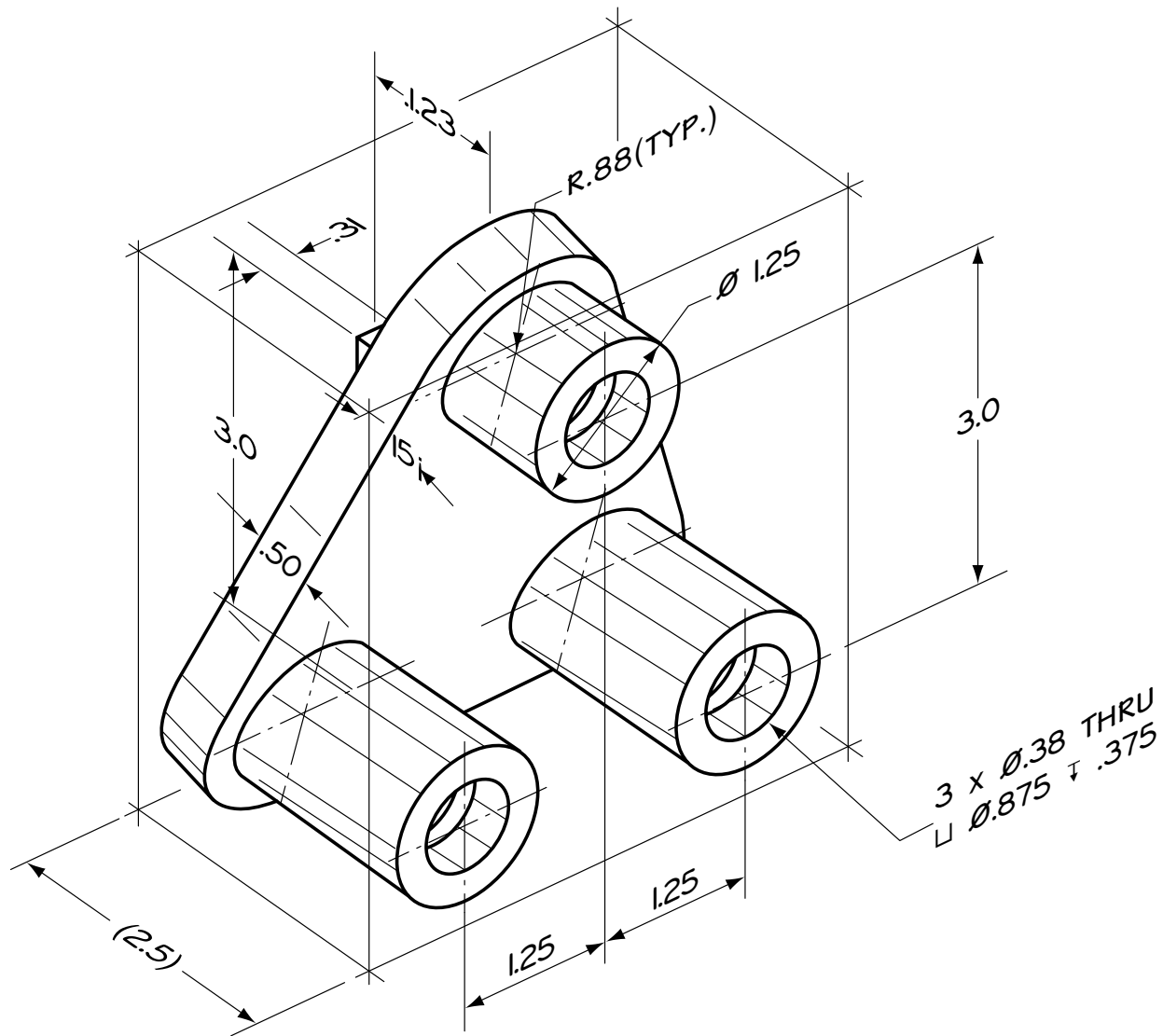


Figure 7-72

Bushing. Draw necessary views with full section.

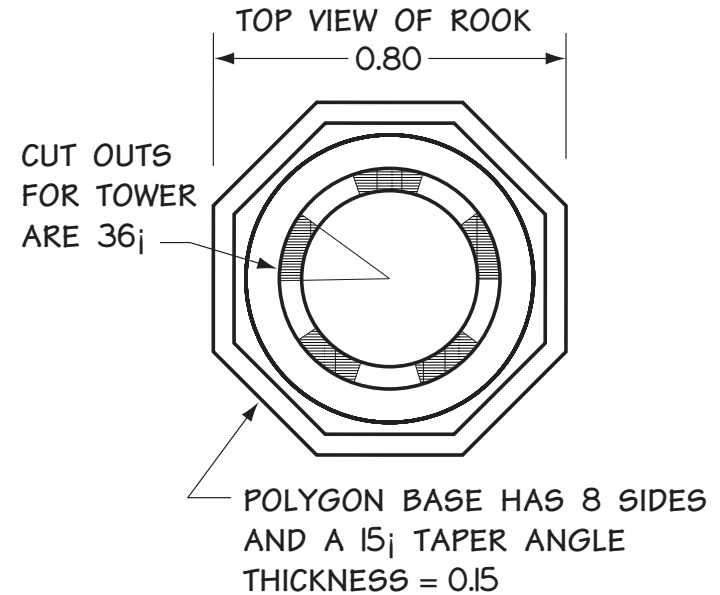
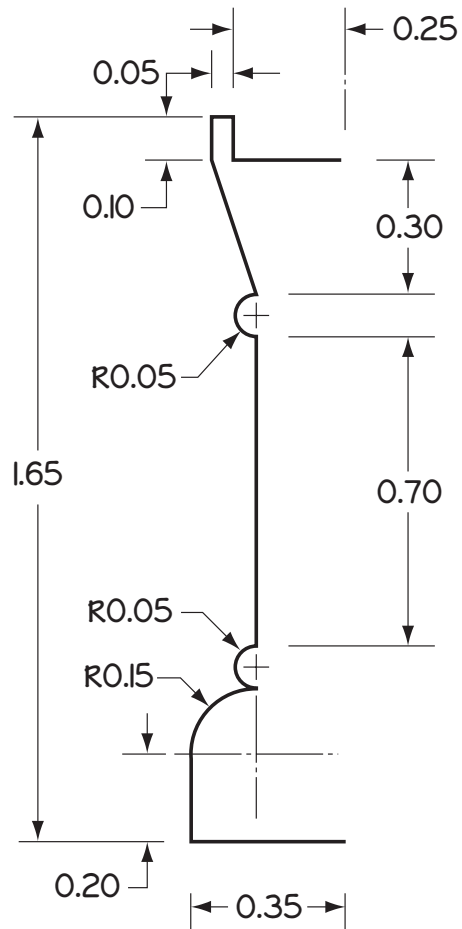


Figure 7-73

Plastic Chess Piece. Given: Top and left-side. Required: Layout B-4 or A3-4 adjusted.)*

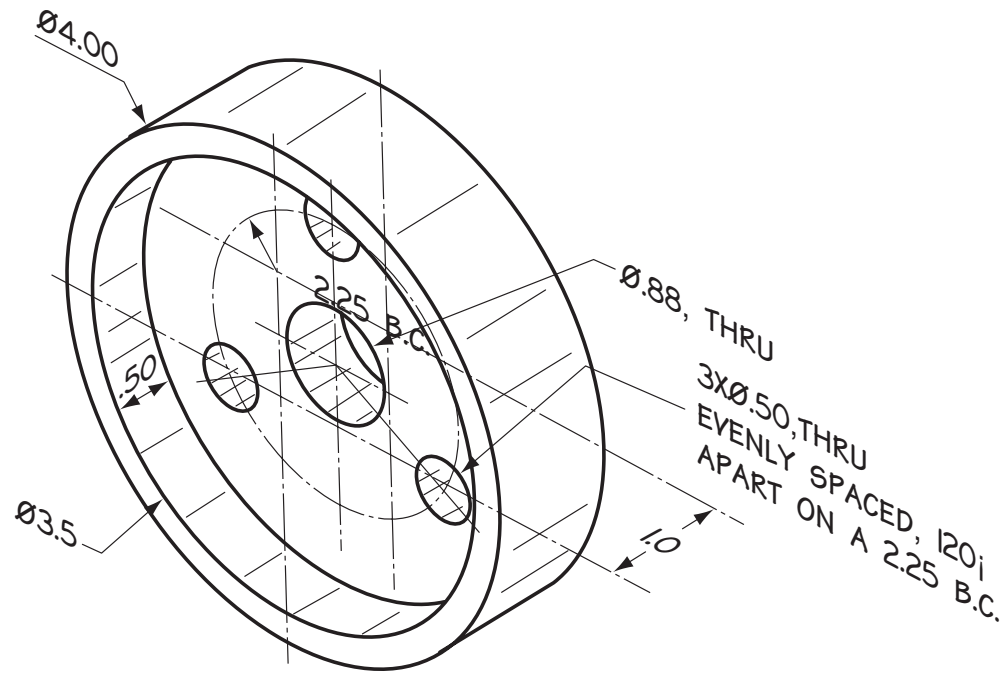


Figure 7-74

Plastic Spacer. Draw all necessary views with one half section (Layout A-3).*

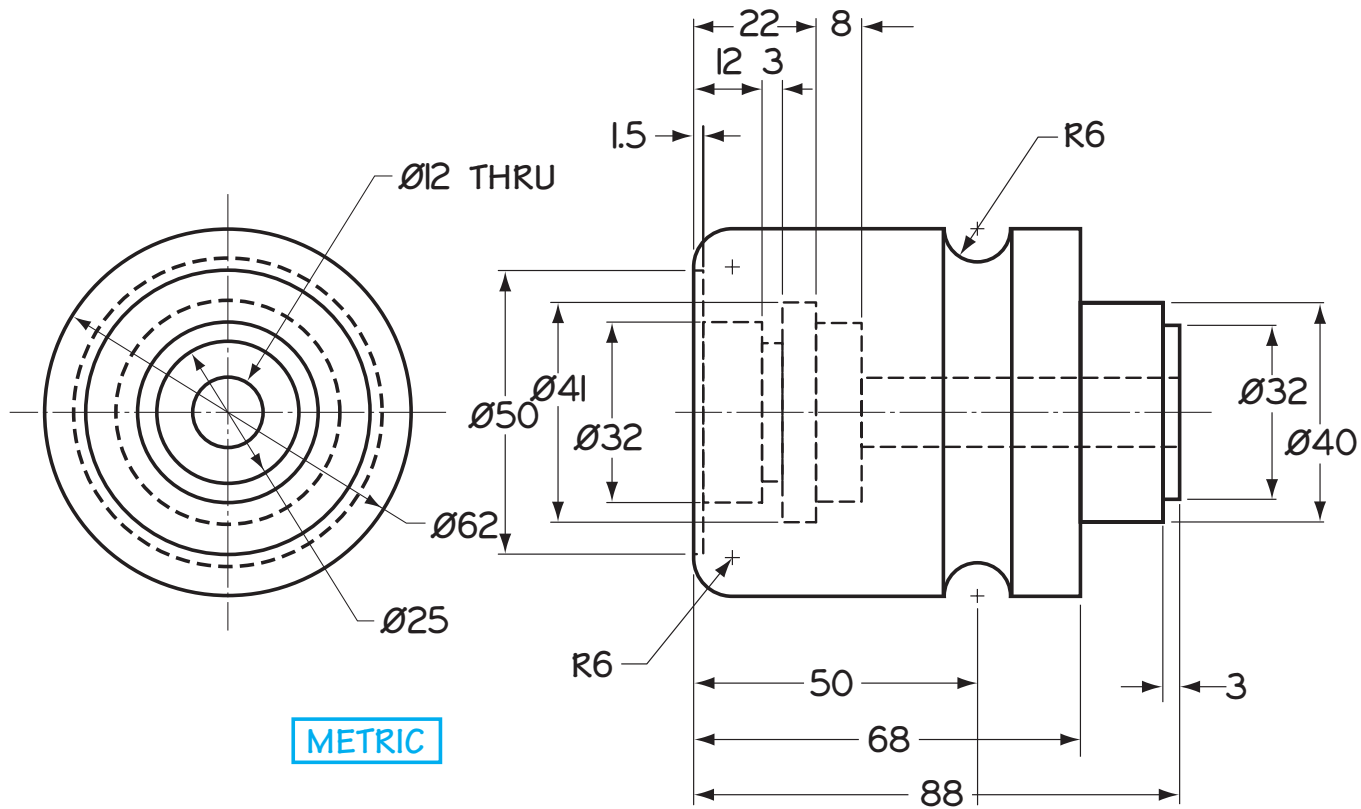


Figure 7-75

Motor: Draw all required views with one half section (Layout B-4 or A3-4 adjusted)

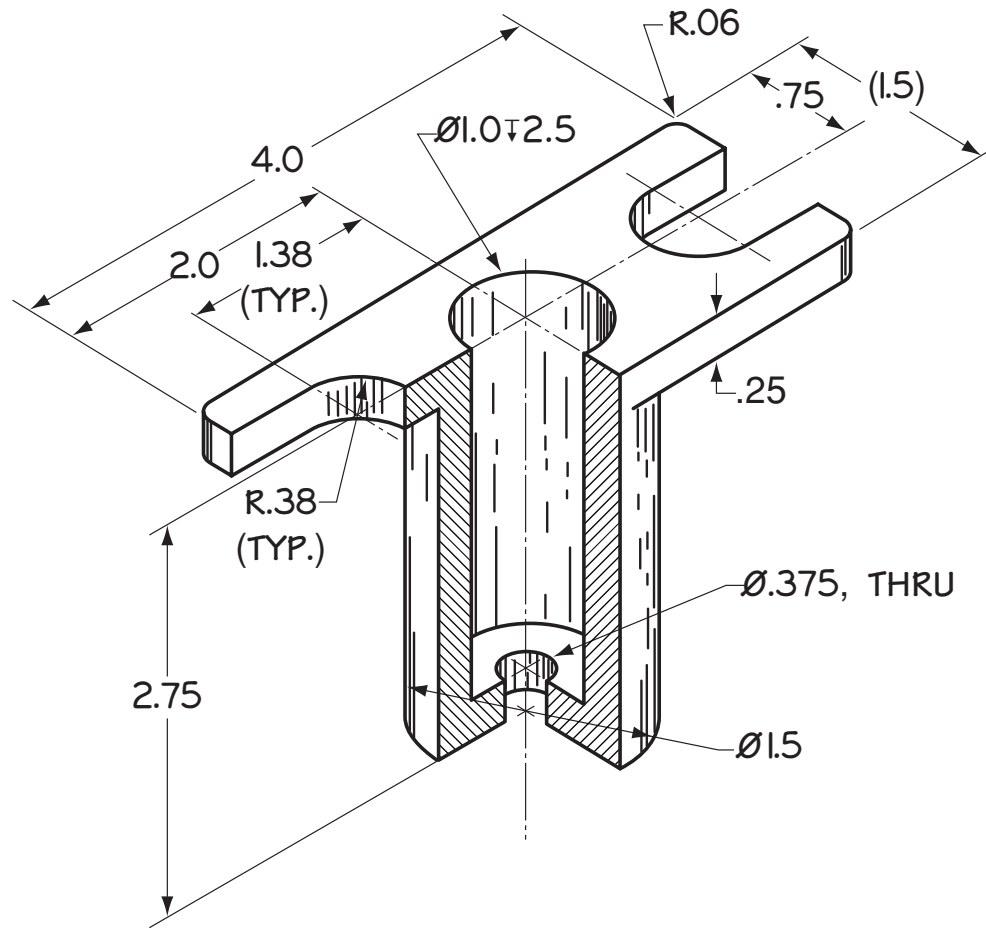


Figure 7-76

Mounting Pin. Draw front and top view. Make one view a half section (Layout B-4 or A3-4 adjusted).*