

Chapter 18

Worked examples in machine drawing

Examination questions generally relate to single parts or assemblies of detailed components, and test the students' ability to draw sectional and outside views. British Standards refer to 'views' but other terms have been traditionally used in technical drawing. The front or side view of a house is quite likely to be known as an elevation and a 'birds eye view' as a plan. These expressions are freely used.

The examples which follow are of examination standard and a student draughtsman would be expected to produce a reasonably complete solution for each problem in about two to three hours.

Before commencing, try and estimate the areas covered by the views so that they can be presented

with reasonably equal spaces horizontally and vertically on the drawing sheet. Include a border about 15 mm width, add a title block and parts list if necessary. Note that attention to small details will gradually enable you to improve the quality of your draughtsmanship.

In an industrial situation, before commencing a drawing, the draughtsman will make a mental picture of how to orient the component, or arrangement, so that the maximum amount of information can be indicated with the minimum number of views necessary to produce a clear unambiguous solution. However, this is easier said than done in the case of the student, and especially where the drawing is being made on CAD equipment since the size of the screen often means

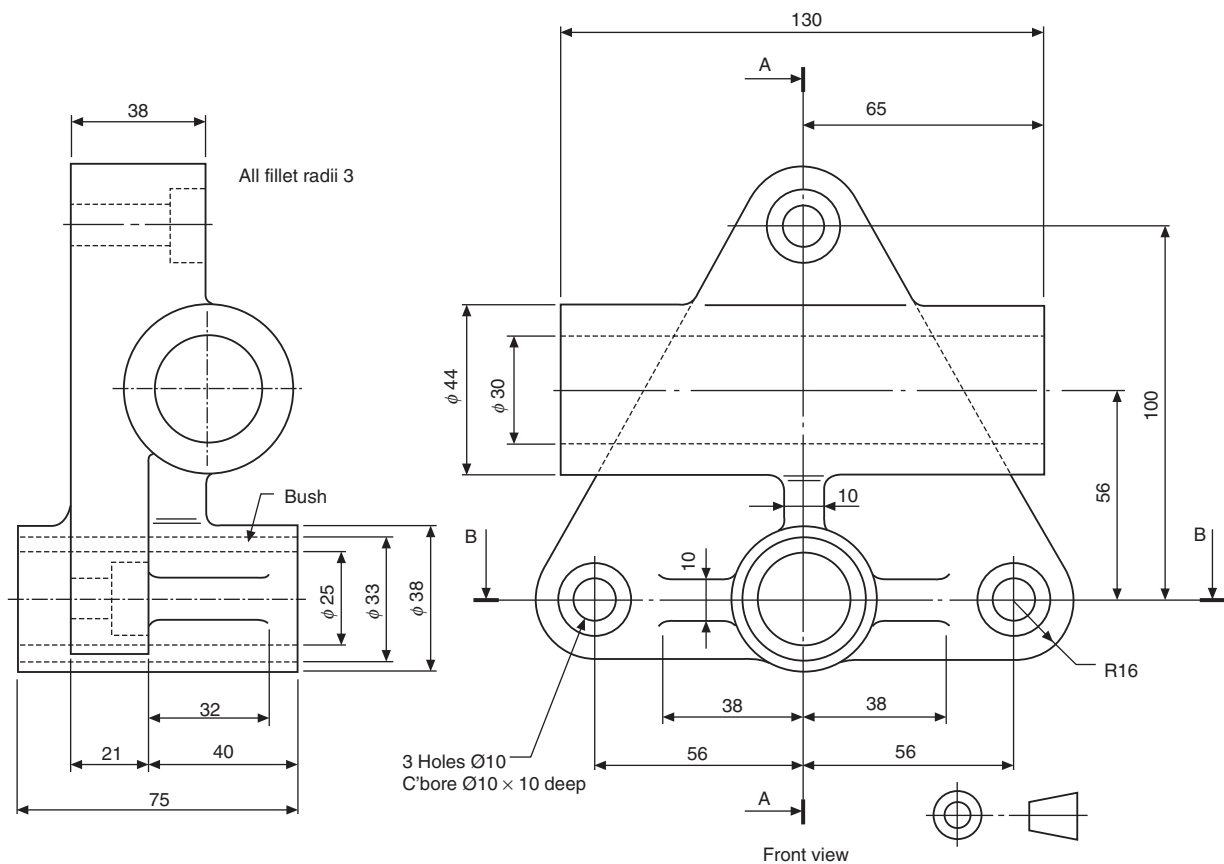


Fig. 18.1

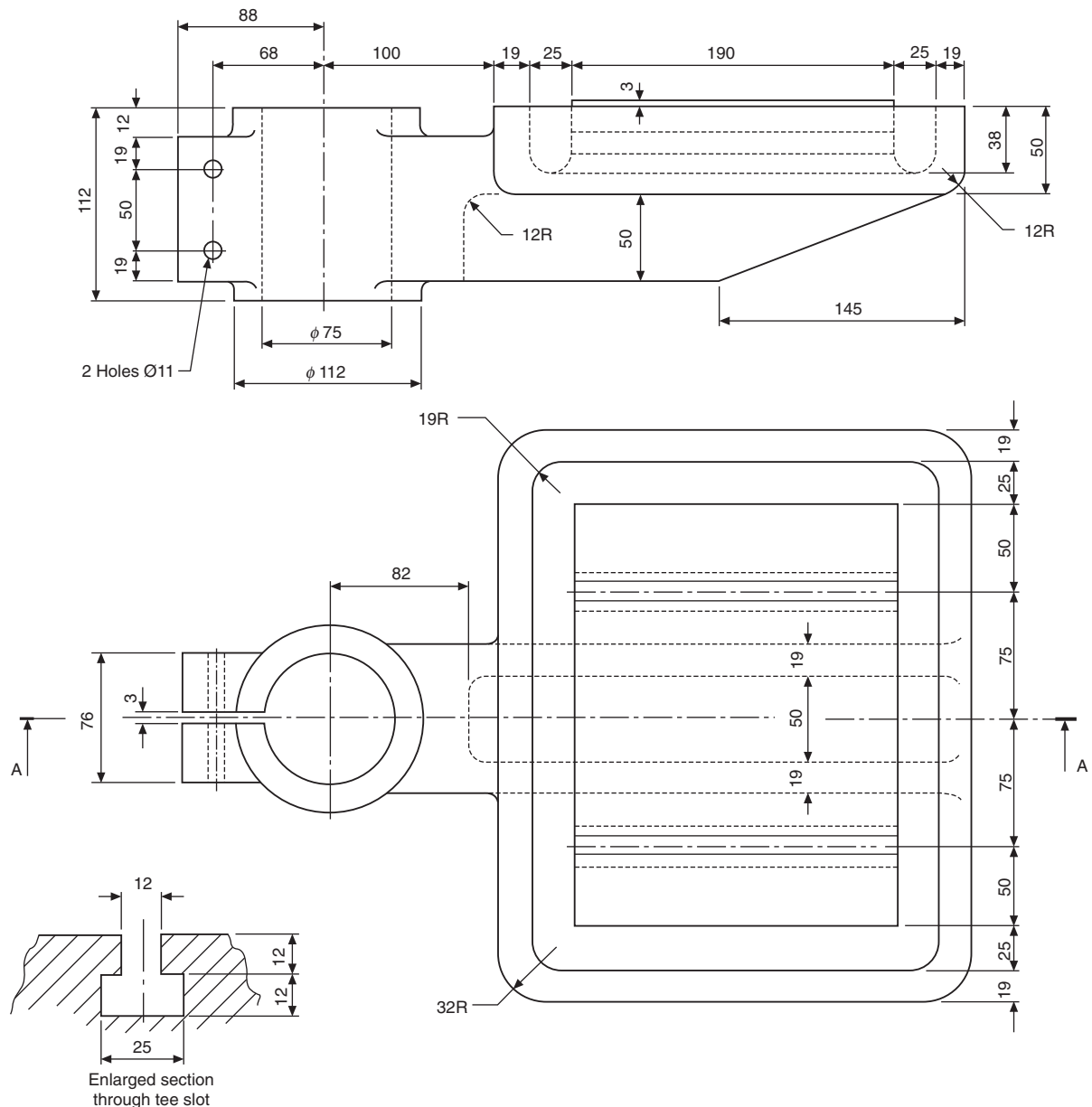


Fig. 18.2 Note: all unspecified radii 6

that part of the drawing is temporarily out of sight. This is part of the learning experience.

Copy the following solutions and try to appreciate the reasons for the position of every line which contributes to the finished drawing.

1 Bushed bearing bracket

Front and end views of a bushed bearing bracket are shown in Fig. 18.1. Copy the given front view and project from it a sectional end view and a sectional plan view taken from cutting planes A-A and B-B.

Draw your solution in first angle projection. Note that the question is presented in third angle projection.

2 Drill table

Figure 18.2 shows details of a table for a drilling machine. Draw half full size the following views:

- A front view taken as a section along the cutting plane A-A.
- The given plan view with hidden detail.
- An end view projected to the left of the front view with hidden detail included.

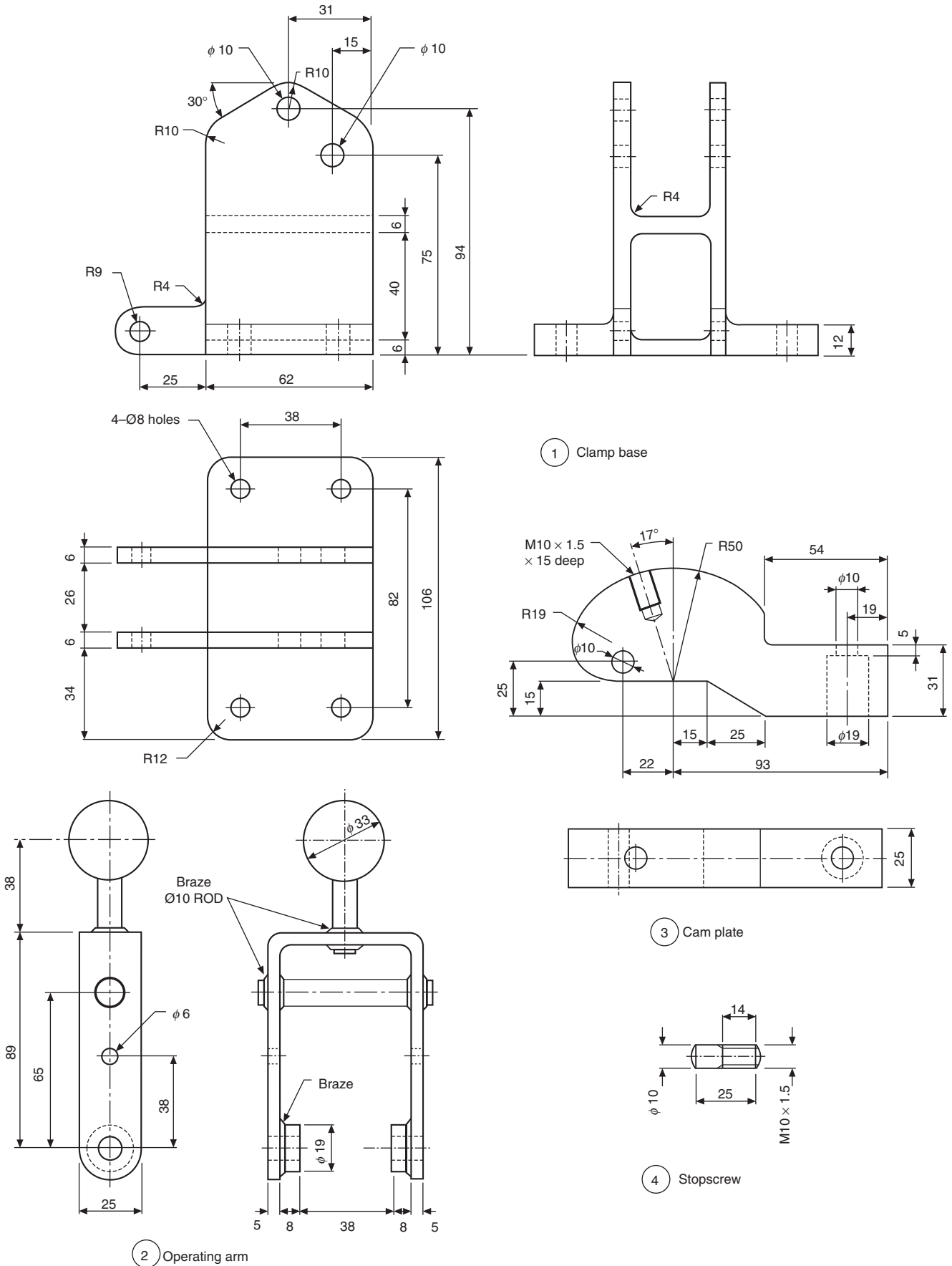


Fig. 18.3

Chapter extract

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