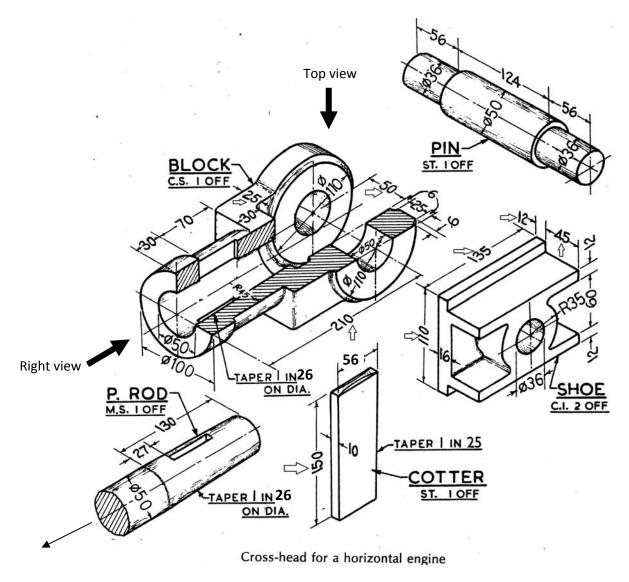
ME251 Engineering Design and Graphics - Laboratory Exercise 5

Friday, August 26, 2016

The pictorial view of the parts of a cross-head for a horizontal engine is shown in figure. This assembly consists of i) a piston rod (P. ROD), ii) one block, iii) one pin and iv) two shoes. The two shoes slide in channels and can translate back and forth in the channels. The shoes are placed on either sides of the bock and connected by the pin passing through the shoes and block. **Note that the hole of 36 mm diameter in the shoe is only 45 mm deep.** The tapering face of the cotter is in contact with the slot in the rod which has the same taper. Draw the assembled front, top and right side view. The front view is the view obtained by looking along the axis of the pin. Hidden lines have to be shown only for the cotter and the slots in the block and rod in the front view. In other views hidden lines need not be shown. Using unidirectional system, indicate the dimensions which are marked by arrows in the figure. During operation, the rod pulls the block and shoe as shown by the arrow in figure. Use scale of 1:1. Fillet radius is 6 mm (if not mentioned). The clearance between the cotter and slots is 3 mm (similar to that in lab 03).



All dimensions in mm