CHAPTER 7

Auxiliary

Views



Auxiliary views

Auxiliary views are orthographic views used to present true-shaped views of slanted and oblique surfaces. Slanted and oblique surfaces appear foreshortened or as edge views in normal orthographic views.



PROJECTION BETWEEN NORMAL AND AUXILIARY VIEWS

Information about an object's features can be projected between the normal views and any additional auxiliary views by establishing reference planes. A reference plane RPT is located between the top and front views



information projected from given front and side views into an auxiliary view

Reference planes RPS and RPA were located 10 millimeters from and parallel to the side and auxiliary views, and information was projected from the front view into the auxiliary view using lines perpendicular to plane RPA.



TRANSFERRING LINES BETWEEN VIEWS



Objects are often dimensioned so that only some of their edge lines are dimensioned. This means that **Offset** may not be used to transfer distances to auxiliary views until the line length is known.

There are three possible methods that can be used to transfer an edge line of unknown length.



PROJECTING ROUNDED SURFACES

Rounded surfaces are projected into auxiliary views as ______ they were projected into the normal orthographic views



PROJECTING IRREGULAR SURFACES

Auxiliary views of irregular surfaces are created by projecting information from given normal orthographic views into the auxiliary views in a manner similar to the way information was projected between orthographic views.

The irregular surface is defined by a series of points along its edge line





Engineering Graphics with AutoCAD 2011, 1/e James Bethune

PARTIAL AUXILIARY VIEWS

It is often clearer to create an auxiliary view of just the slanted surface and omit the surfaces that would be foreshortened.



SECTIONAL AUXILIARY VIEWS

Sectional views may also be drawn as auxiliary views.



AUXILIARY VIEWS OF OBLIQUE SURFACES

An auxiliary view shows the true shape of a surface only when it is taken at exactly 90° to the surface.

Oblique surfaces are surfaces rotated about two axes.



Oblique surfaces are surfaces rotated about two axes.

SECONDARY AUXILIARY VIEWS

A second auxiliary view can then be taken perpendicular to the end view that will show the true shape of the surface.



Engineering Graphics with AutoCAD 2011, 1/e James Bethune

SECONDARY AUXILIARY VIEW OF AN ELLIPSE

The secondary view of the surface will show the hole as a circle, so only a radius value need be carried between the views.



Engineering Graphics with AutoCAD 2011, 1/e James Bethune



Engineering Graphics with AutoCAD 2011, 1/e James Bethune