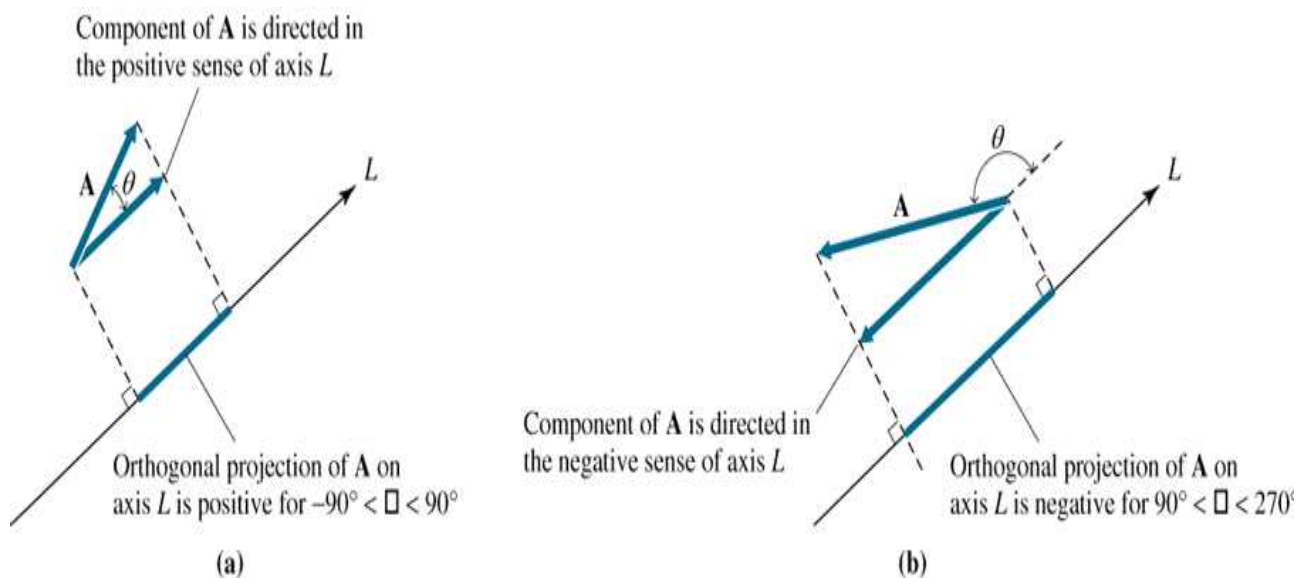Orthogonal projection of a vector on an axis L is constructed by drawing projection lines from the axis to the tail and tip of the vector.

Component of A is directed in the positive sense of axis L

Orthogonal projection of A on axis L is positive for $-90° < \theta < 90°$

(a)

Component of A is directed in the negative sense of axis L

Orthogonal projection of A on axis L is negative for $90° < \theta < 270°$

(b)

Fig 2.22   Orthogonal projection of a vector on an axis

※ If a vector is perpendicular to the axis , its magnitude of projection on the axis is zero.