
Explain Klein’s construction to determine velocity and acceleration of different links in single slider crank mechanism.

Question:
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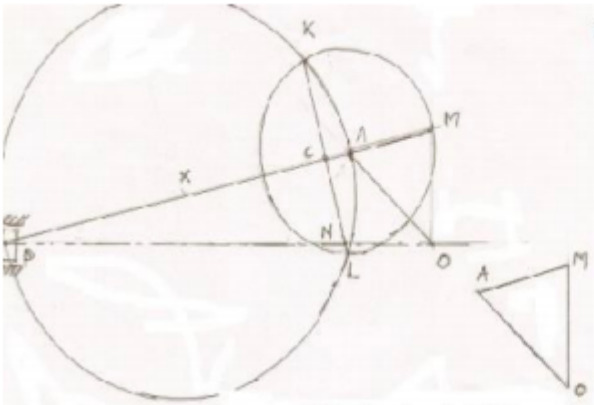
Answer:
Klein’s construction

a) For velocity of different links

b) For acceleration of different links



Velocity triangle AMO

Acceleration quadrilateral ACNO

klein's construction

1) Draw the basic diagram with the angle made by crank , crank (AO) and connecting rod (AP) with dimensions and scale.
2) Extend the connecting rod upto the vertical line of the crank circle and mark intersection point M, the triangle created ΔOAM is the velocity triangle.
3) Bisect the connecting rod at X.
4) Draw the circle with radius equal to XA or XB.
5) Draw the circle with Centre as "A" and radius equal to AM.
6) Both circles will intersect each other at two points (K, L), join these two points.
7) This line will intersect the connecting rod at point "C" and line of stroke at point "N".

Quadrilateral OACN is the acceleration diagram. This is required acceleration diagram of the links