RAMA UNIVERSITY

www.ramauniversity.ac.in

FACULTY OF ENGINEERING & TECHNOLOGY

2.According to the motion

(a)Reciprocating or translating follower.

When the follower reciprocates in guides as the cam rotates uniformly, it is known as reciprocating or translating follower.

The followers as shown in Fig. (a) to (d) are all reciprocating or translating followers.

(**b) Oscillating or rotating follower.**

When the uniform rotary motion of the cam is converted into predetermined oscillatory motion of the follower, it is called oscillating or rotating follower.

The follower, as shown in Fig (e), is an oscillating or rotating follower.

3. According to the path of motion of the follower.

motion, are of the following two types:

(a)Radial follower.

When the motion of the follower is along an axis passing through the centre of the cam, it is known as radial follower. The followers, as shown in Fig. (a) to (e), are all radial followers.

(b) Off-set follower.

When the motion of the follower is along an axis away from the axis of the cam centre, it is called off-set follower. The follower, as shown in Fig., is an off-set follower.

Classification of CAM

1. Radial or disc cam.

In radial cams, the follower reciprocates or oscillates in a direction perpendicular to the cam axis.

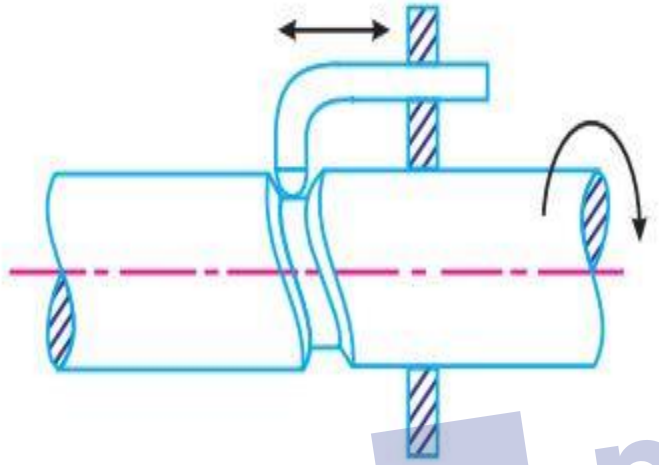
The cams as shown in Fig. are all radial cams.

2. Cylindrical cam.

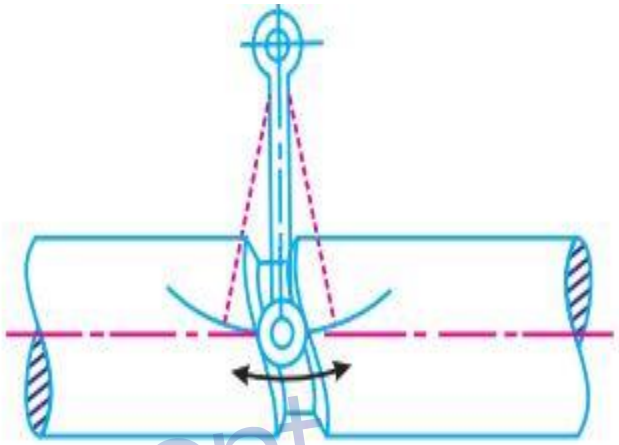
Iin cylindrical cams, the follower reciprocates or oscillates in a direction parallel to the cam axis.

The follower rides in a groove at its cylindrical surface.

A cylindrical grooved cam with a reciprocating and an oscillating follower



(*a*) Cylindrical cam with reciprocating



(*b*) Cylindrical cam with oscillating follower.

Terms Used in Radial Cams

Fig. shows a radial cam with reciprocating roller follower. The following terms are important in order to draw the cam profile.

1. Base circle.It is the smallest circle that can be drawn to the cam profile.

2. Trace point.

It is a reference point on the follower and is used to generate thepitch curve.

In case of knife edge follower, the knife edge represents the trace point and the pitch curve corresponds to the cam profile.

In a roller follower, the centre of the roller represents the trace point.

3. Pressure angle.

It is the angle between the direction of the follower motion and a normal to the pitch curve. This angle is very important in designing a cam profile. If the pressure angle is too large, a reciprocating follower will jam in its bearings.

4. Pitch point.

It is a point on the pitch curve having the maximum pressure angle.

5. Pitch circle.

It is a circle drawn from the centre of the cam through the pitch points.