Cam Design

- A cam is designed to convert one motion into another form
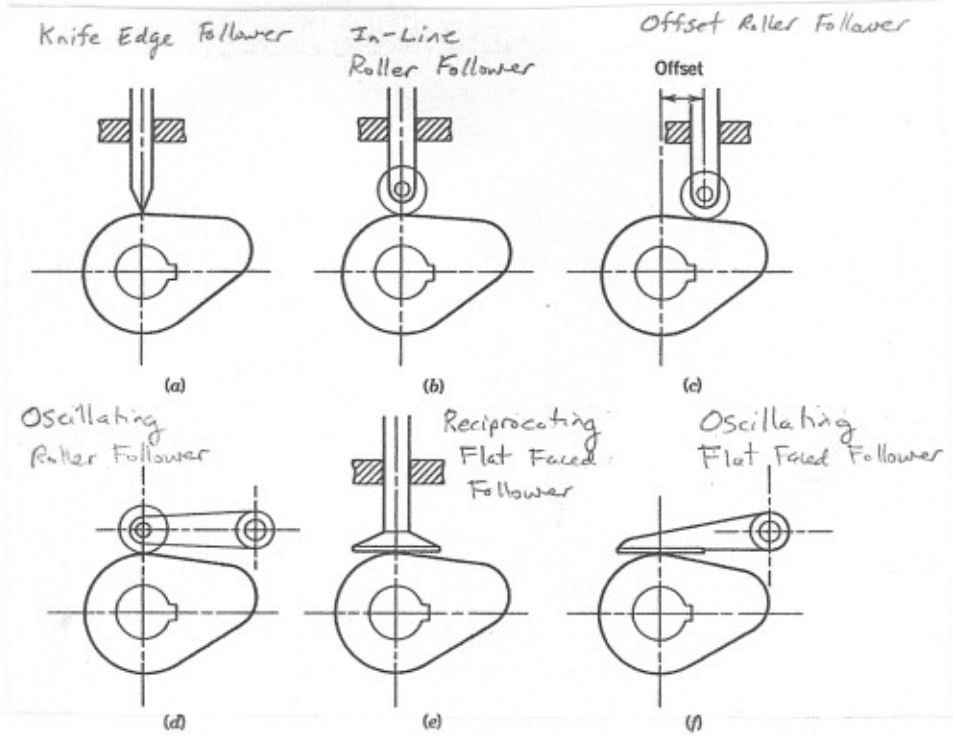- A follower is designed to follow the cam profile.
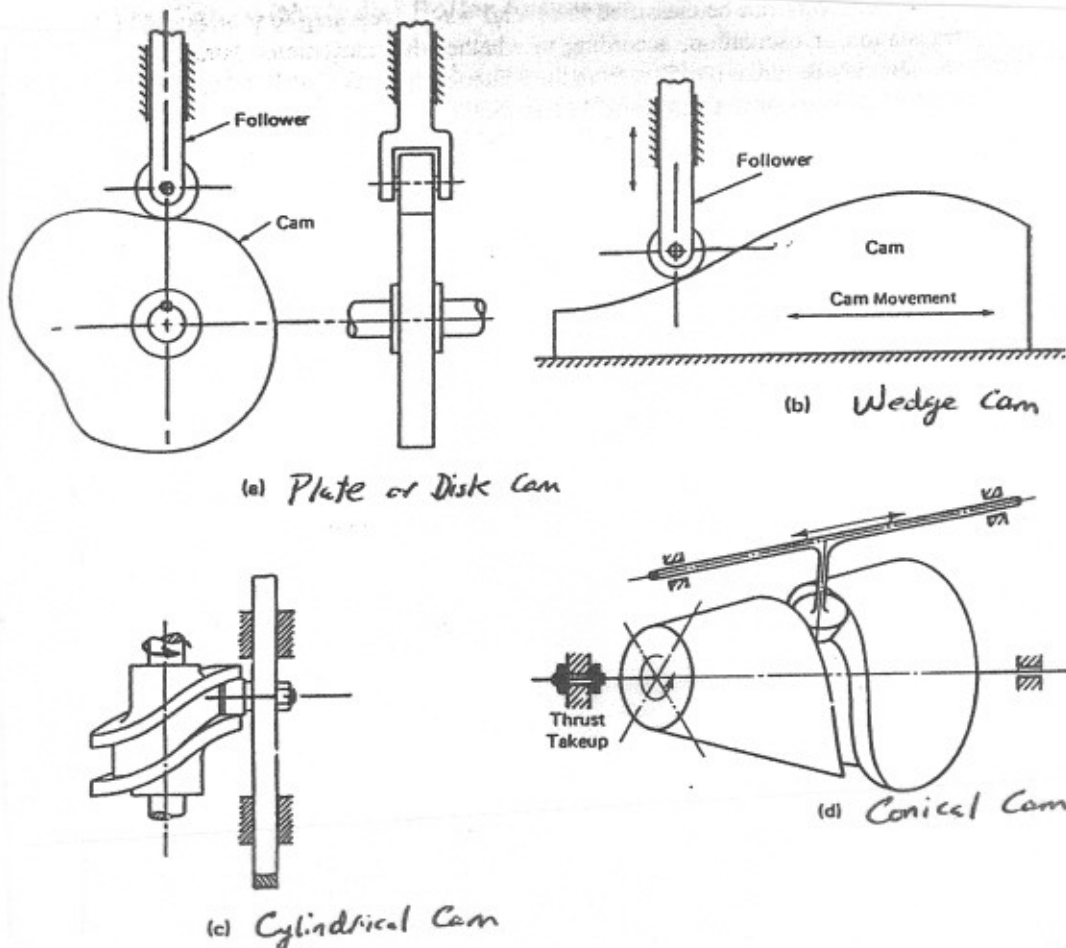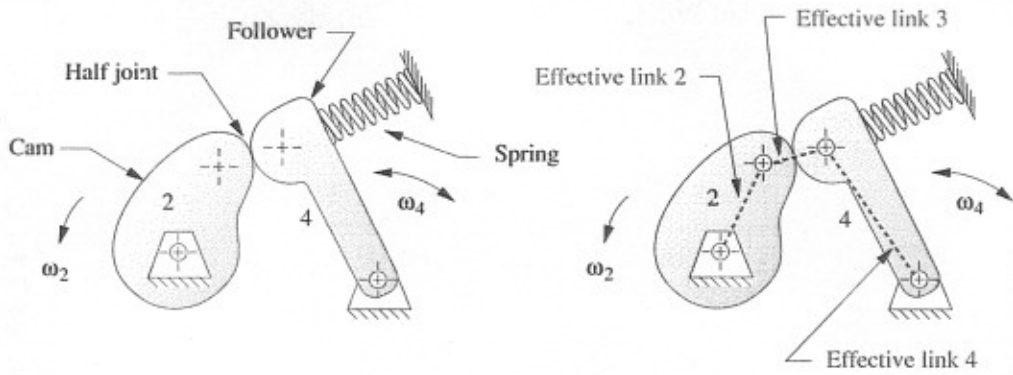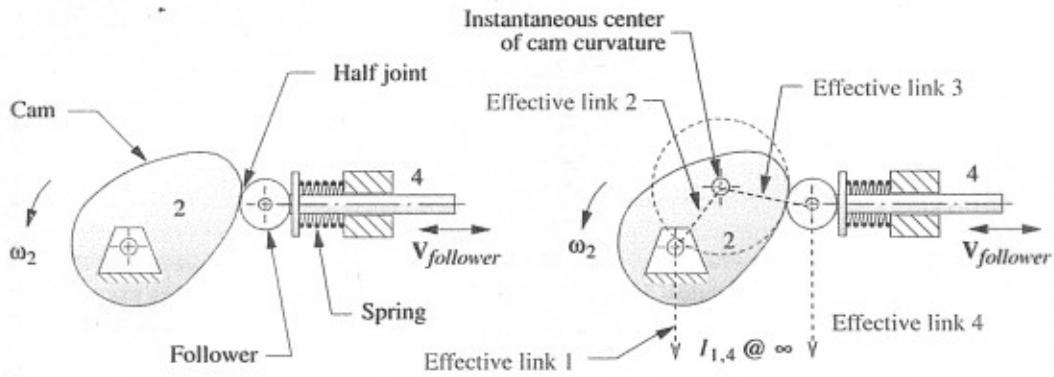

FIGURE 3.1 Common cam-and-follower arrangements.

(a) Plate or Disk Cam

(b) Wedge Cam
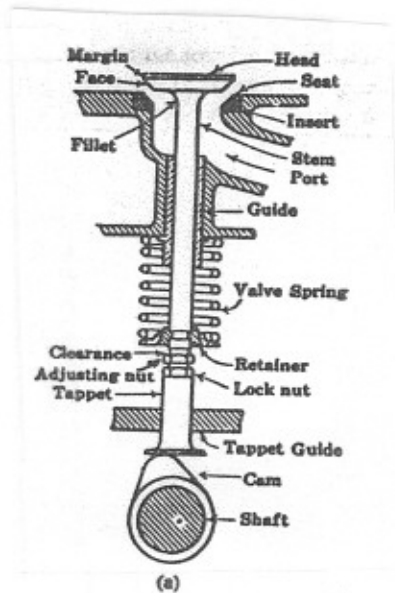
(c) Cylindrical Cam

(d) Conical Cam

(a) An oscillating cam-follower has an effective pin-jointed fourbar equivalent
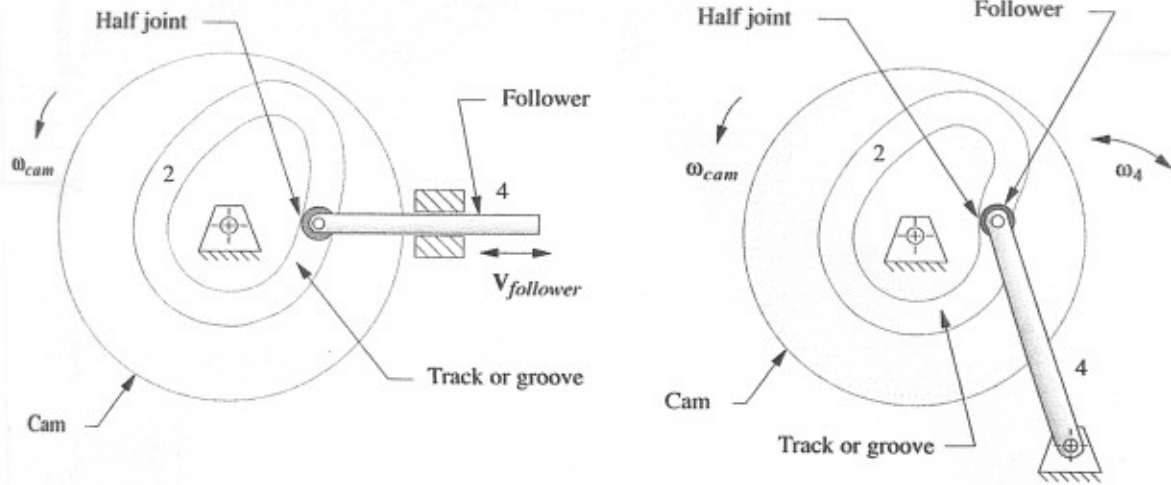

(b) A translating cam-follower has an effective fourbar slider-crank equivalent

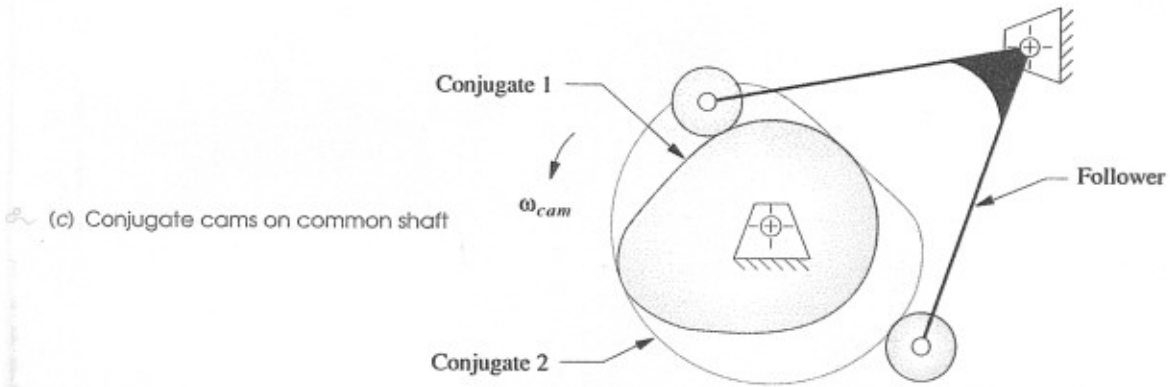**FIGURE 8-1**

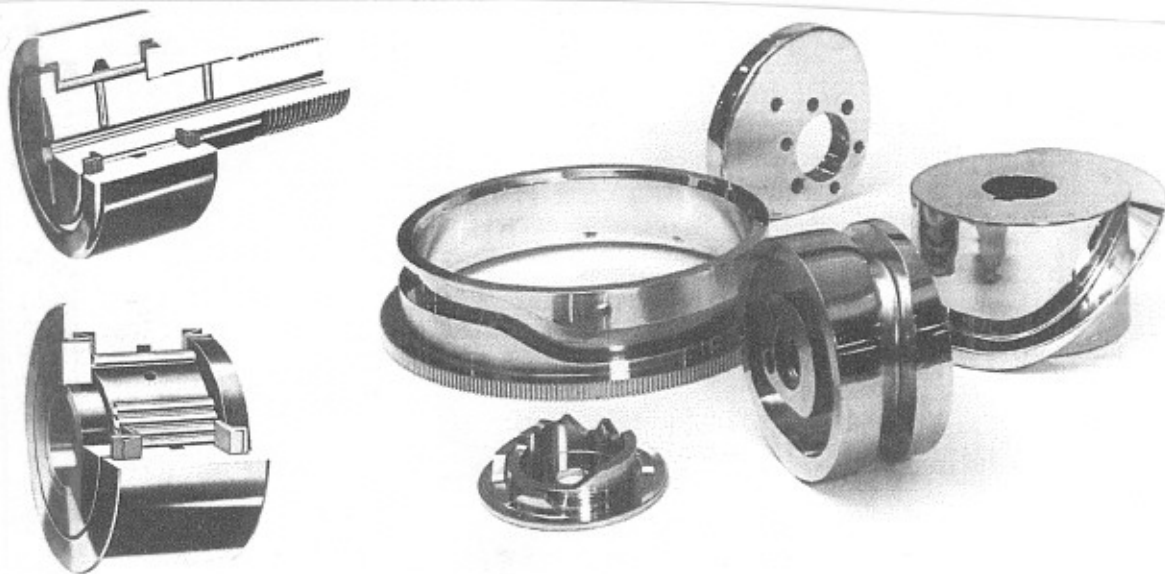Effective linkages in the cam-follower mechanism

(a)

Half joint

Follower

ω_{cam}

2

4

$V_{follower}$

Cam

Track or groove

(a) Form-closed cam with translating follower

Half joint

Follower

ω_{cam}

2

ω_4

Cam

4

Track or groove

(b) Form-closed cam with oscillating follower

Conjugate 1

Follower

(c) Conjugate cams on common shaft

ω_{cam}

Conjugate 2

FIGURE 8-2

Form-closed cam-follower systems

(a) Commercial roller followers
Courtesy of McGill Manufacturing Co.
South Bend, IN

(b) Commercial cams of various types
Courtesy of The Ferguson Co.
St. Louis, MO

FIGURE 8-5

Cams and roller followers