

Even those lifters designed as “flat” have some small crown to ensure that production tolerances never result in a concave lifter face. Those designs that use a radius to induce rotation have a considerably larger crown. The crown usually is measured as the height of the lifter at its centerline relative to its height at a gage diameter. A typical specification for a flat follower would be flat to 0.0125-mm crown at 20-mm gage diameter, whereas a typical spherical-faced lifter would have 0.048–0.071-mm crown at 20-mm gage diameter. Figure 2.46 shows the relationships among offset, lifter spherical face radius, and lobe taper.

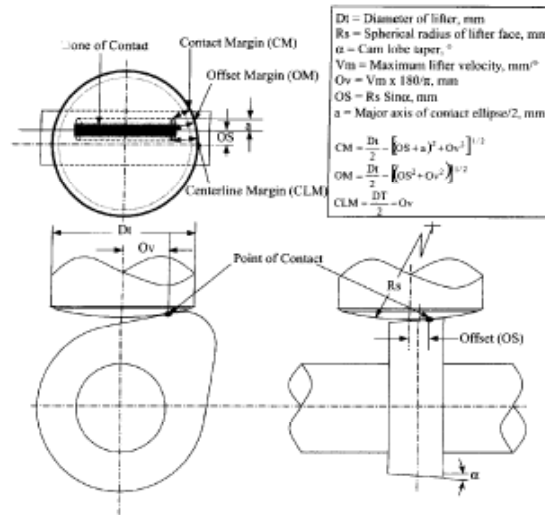


Figure 2.46 Contact between the cam and spherical surface follower.

Followers that have a spherical face radius are always used with camshafts that have a taper on their lobes. This combination results in the offset of the point of contact used to induce rotation of the follower. Offset values typically are 1.0–3.5 mm.

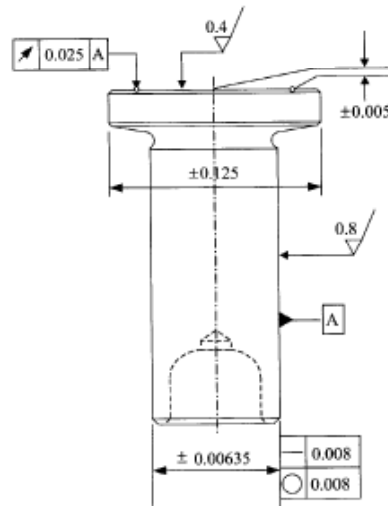


Figure 3.68 Mechanical tappet tolerances and surface finish requirements.