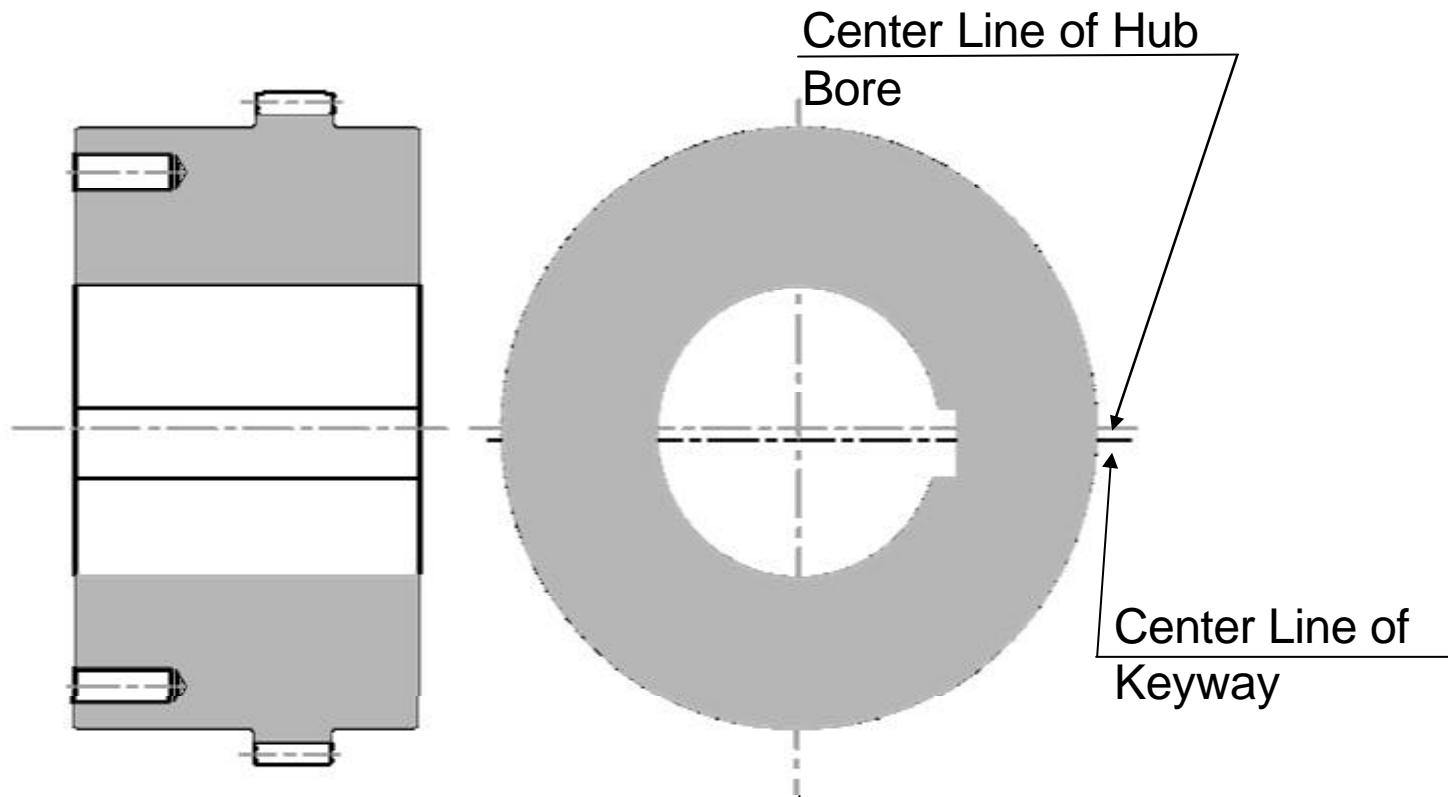


COUPLING FAILURE

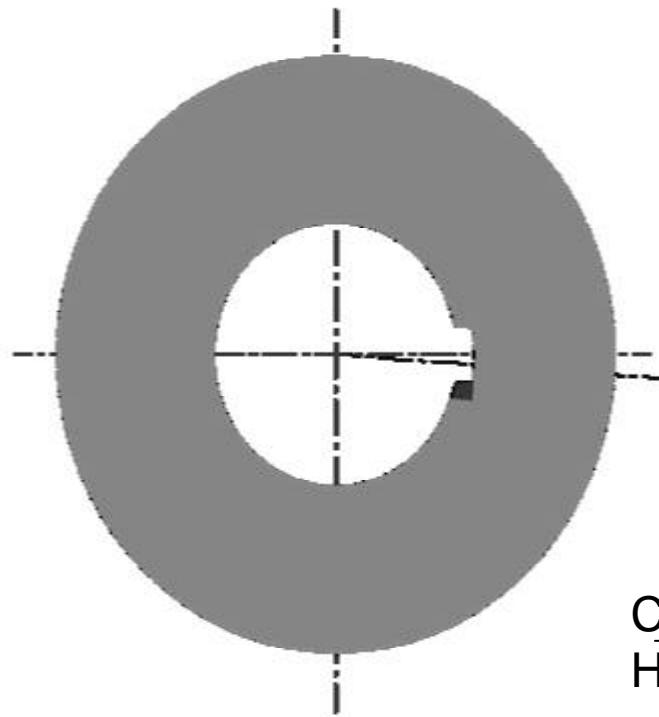
ANALYSIS

1. Faulty Finish Bore & Key Way Machining.
2. Incorrect combination of DBSE & Coupling.
3. Usage of Horizontal arrangement coupling for vertical assembly.
4. Incorrect Coupling Selection considering Power rating.
5. Excessive Angular Misalignment.
6. Incorrect / Insufficient Lubrication.
7. Excessive Interference Fit.
8. Overloading.
9. Vibrations.

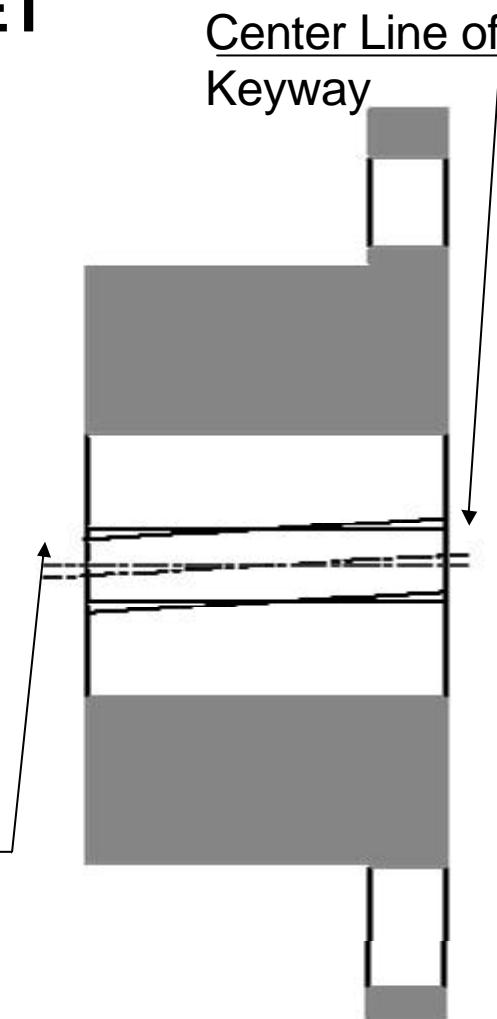
1. CENTER LINES – PARALLEL OFFSET

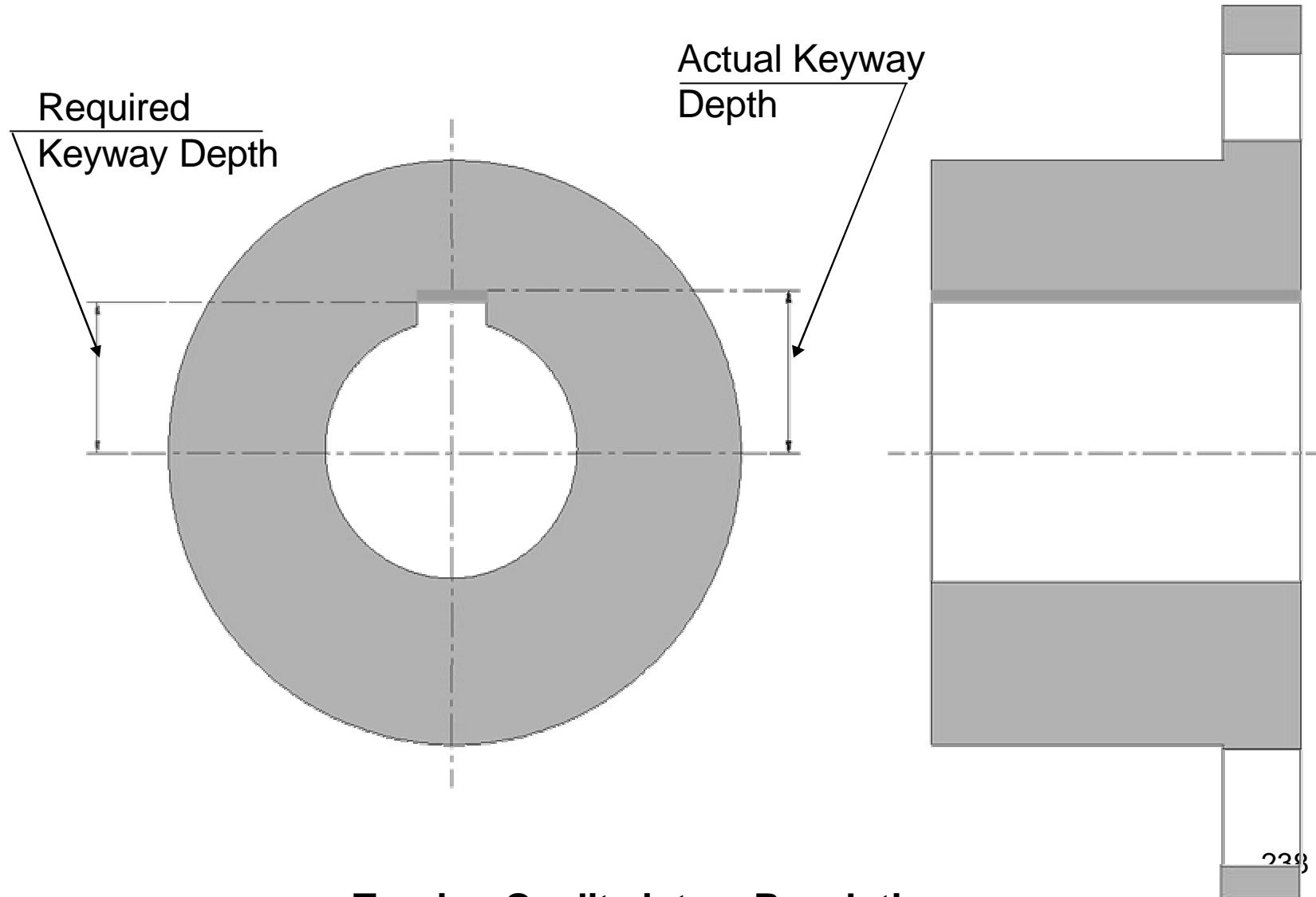


2. CENTER LINES – ANGULAR OFFSET



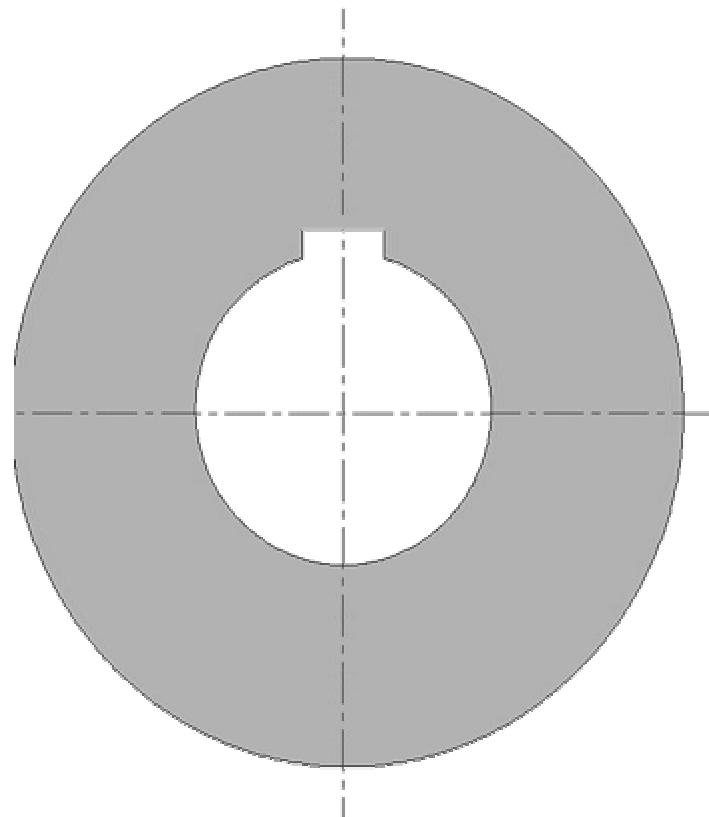
Center Line of
Hub Bore



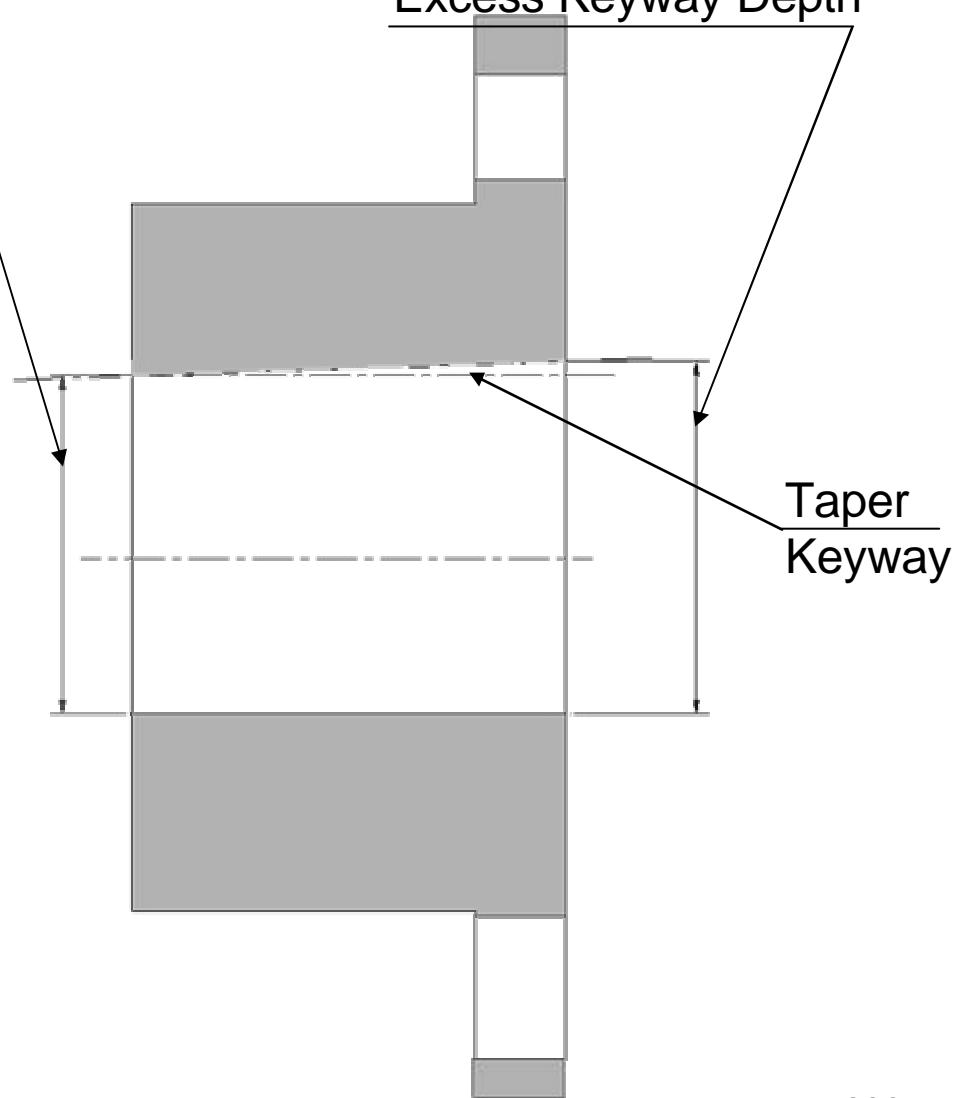


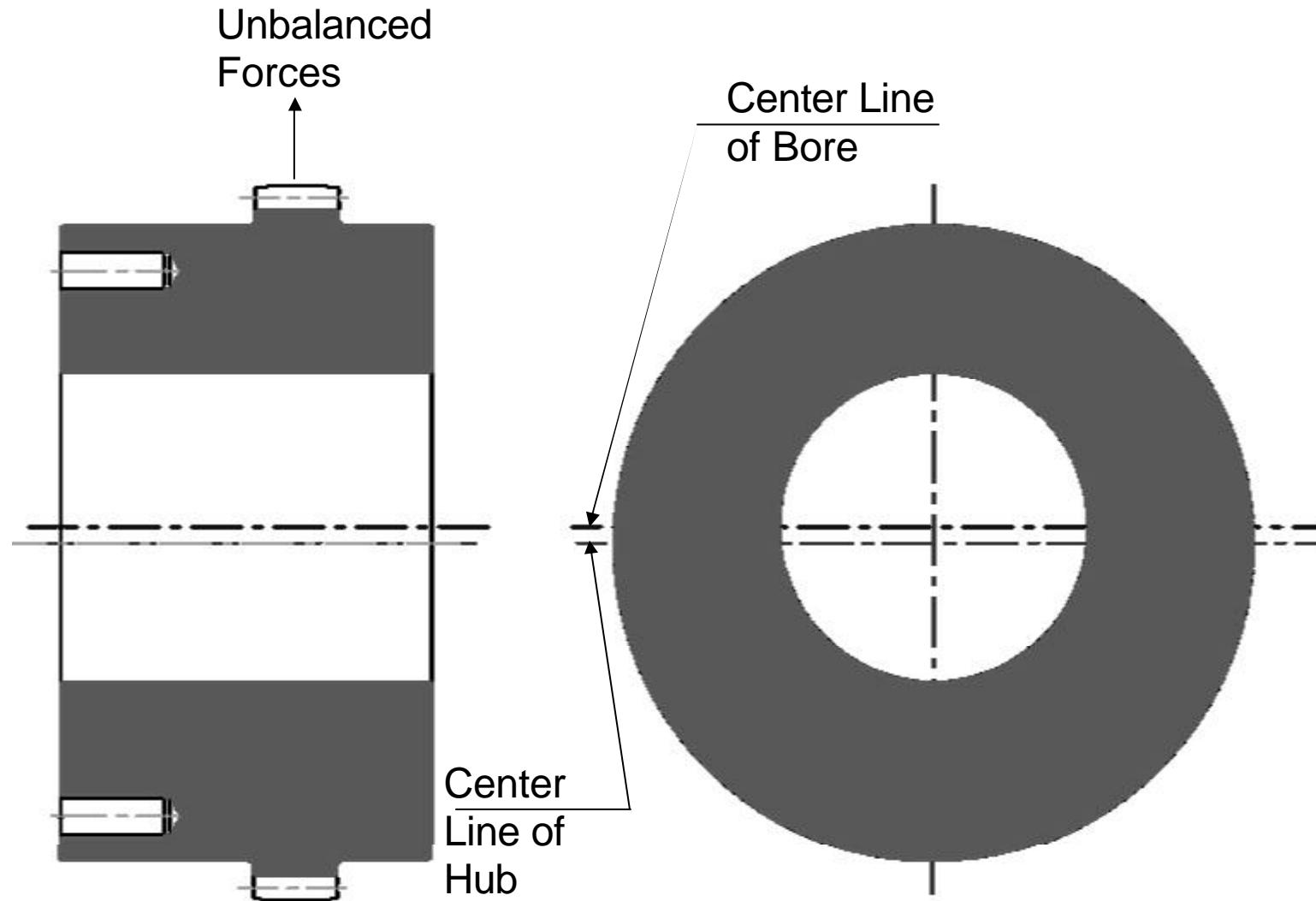
Turning Quality into a Revolution

Required Keyway Depth

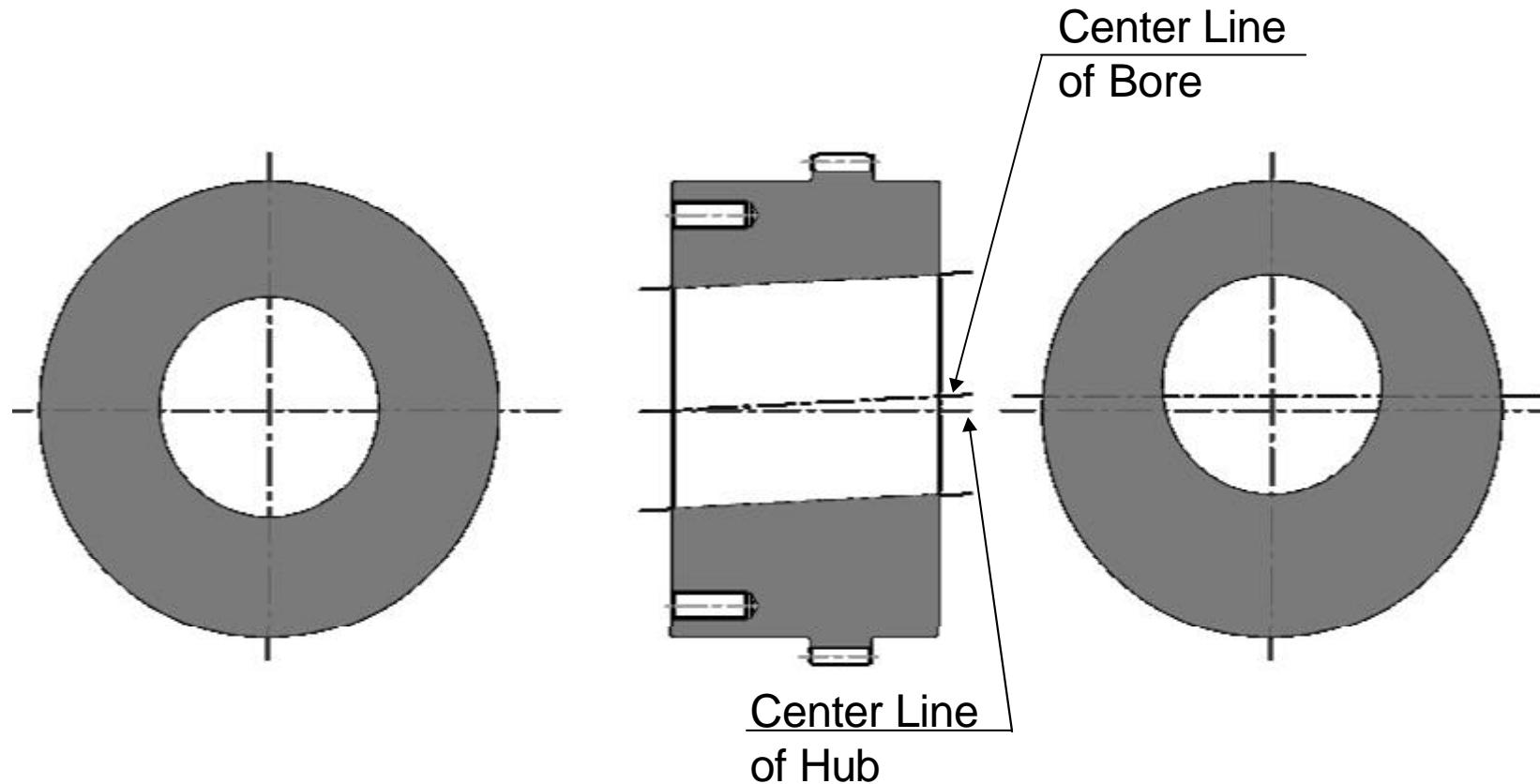


Excess Keyway Depth

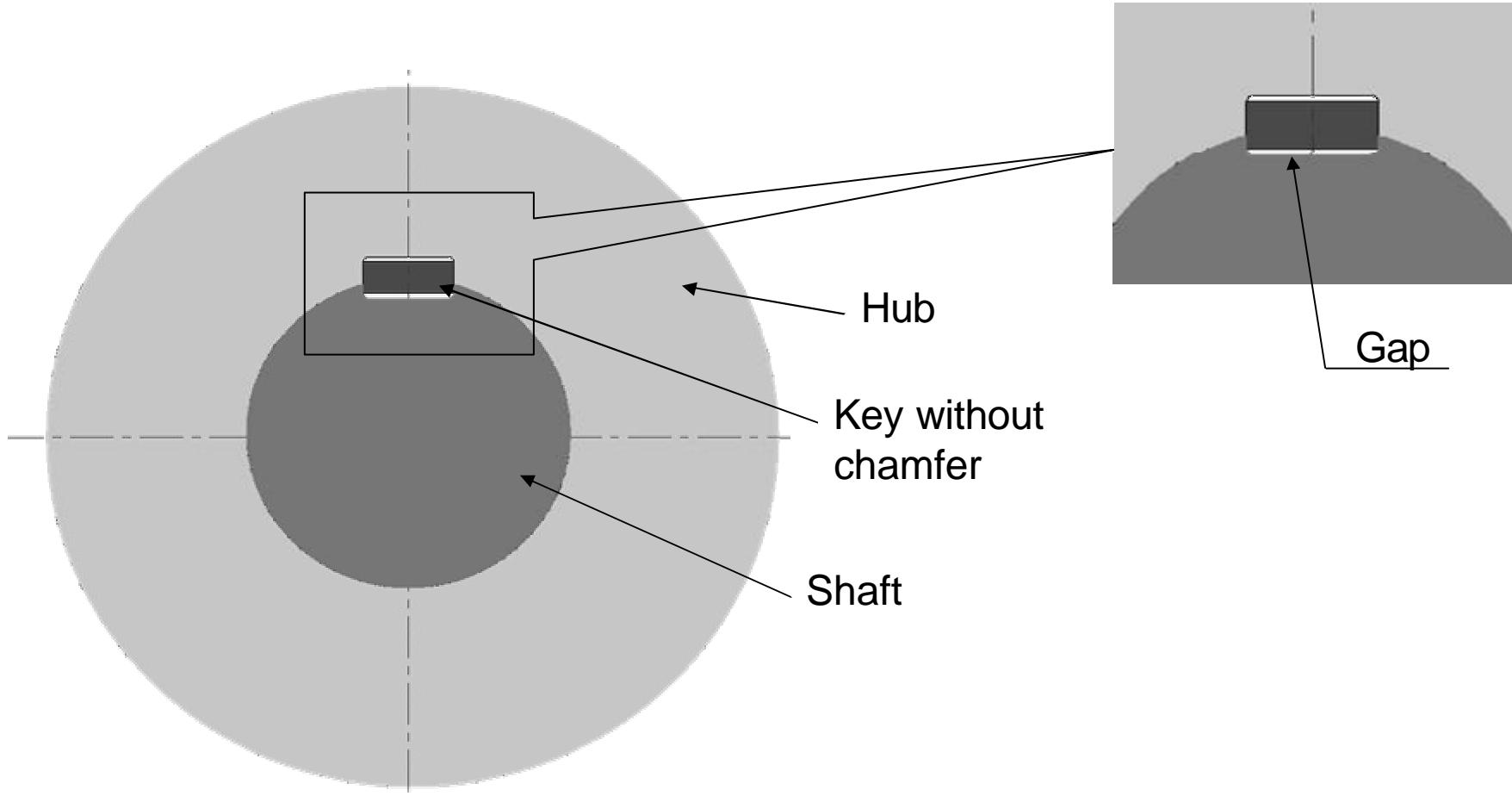




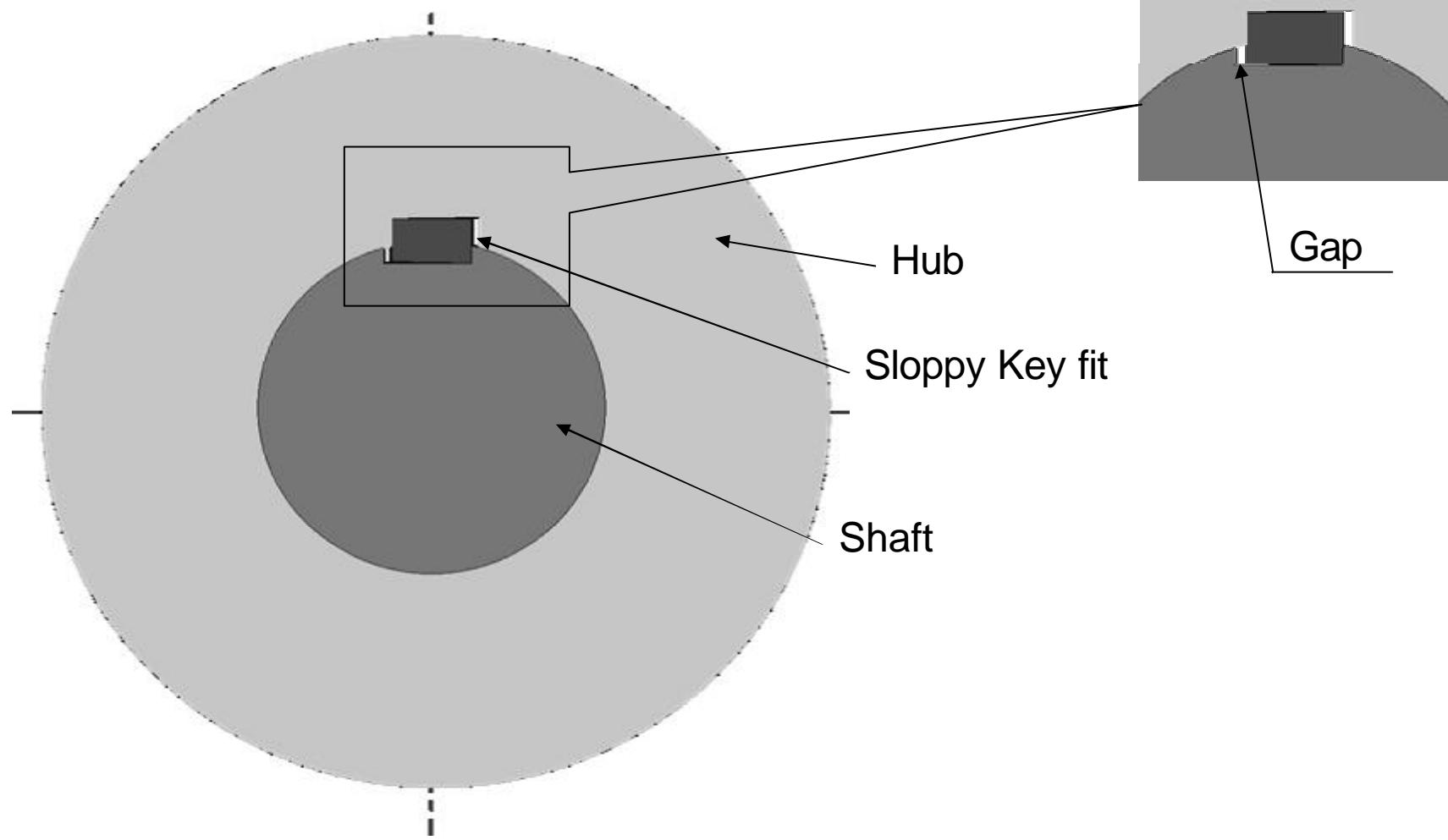
SKEW HUB BORE



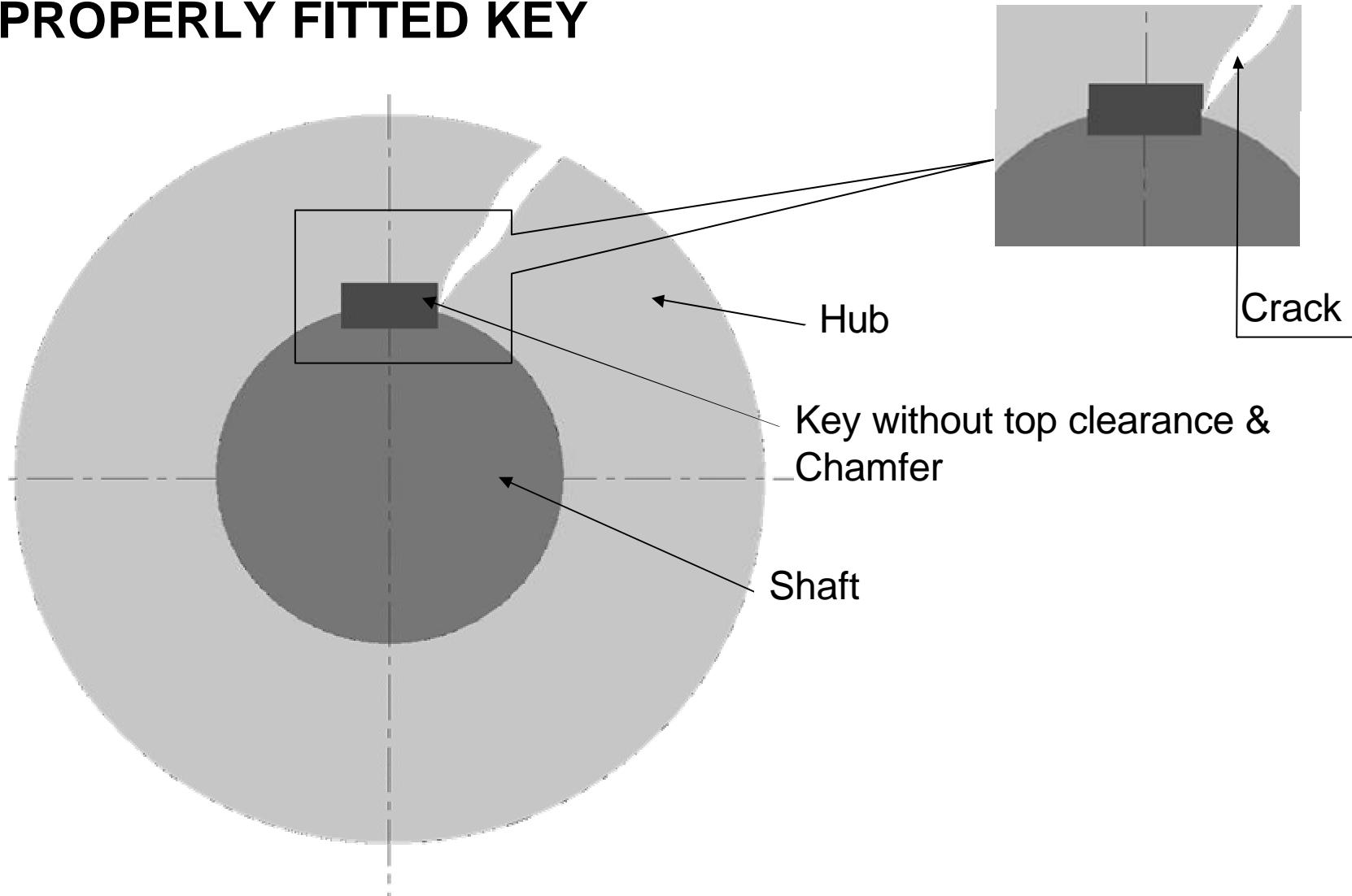
IMPROPERLY FITTED KEY



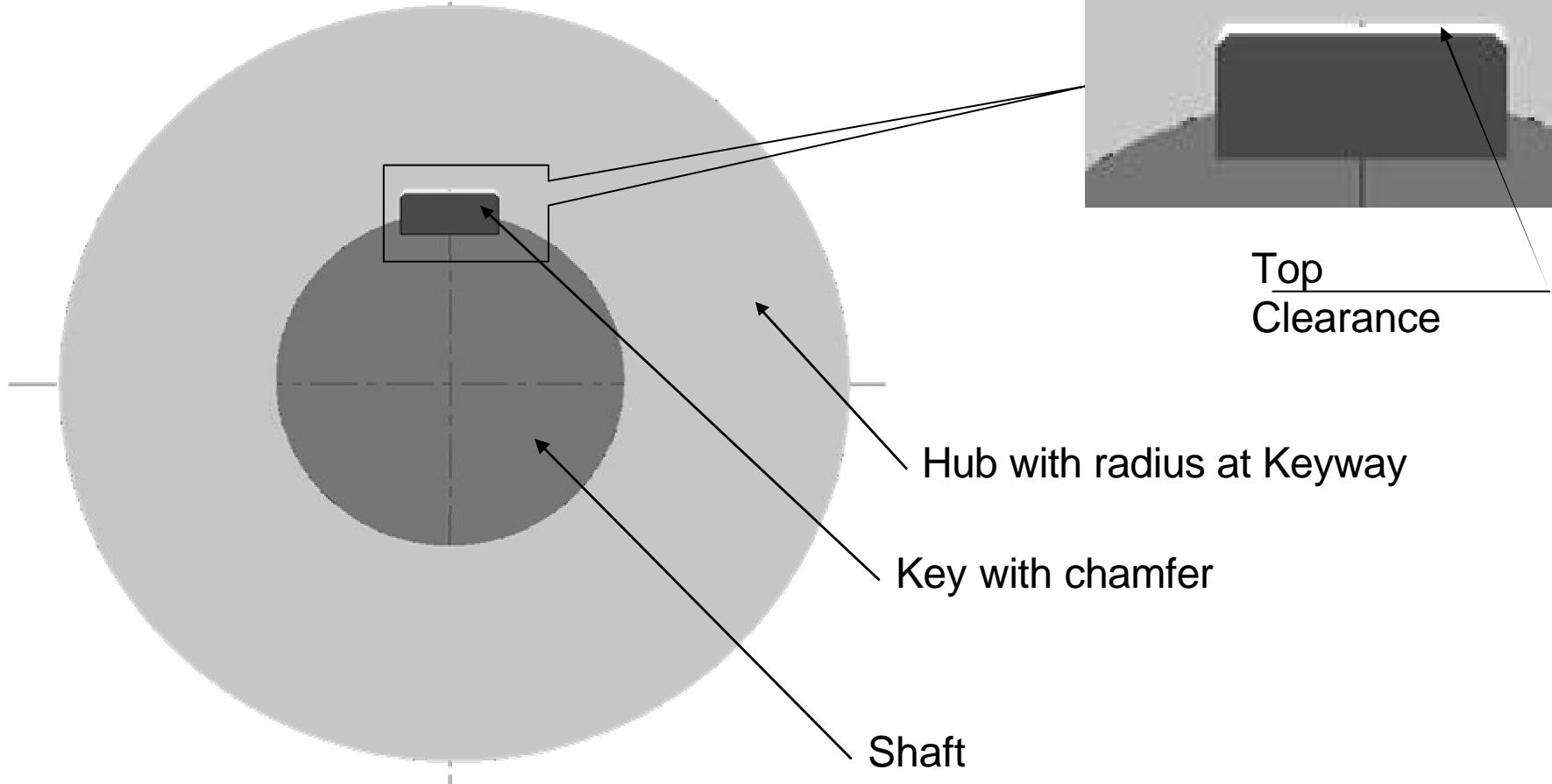
IMPROPERLY FITTED KEY



IMPROPERLY FITTED KEY

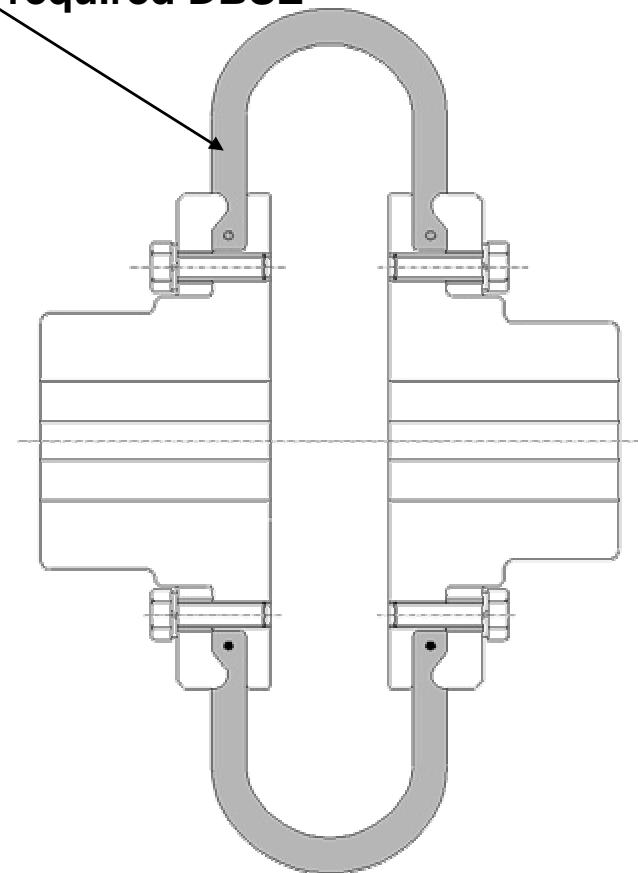


PROPERLY FITTED KEY

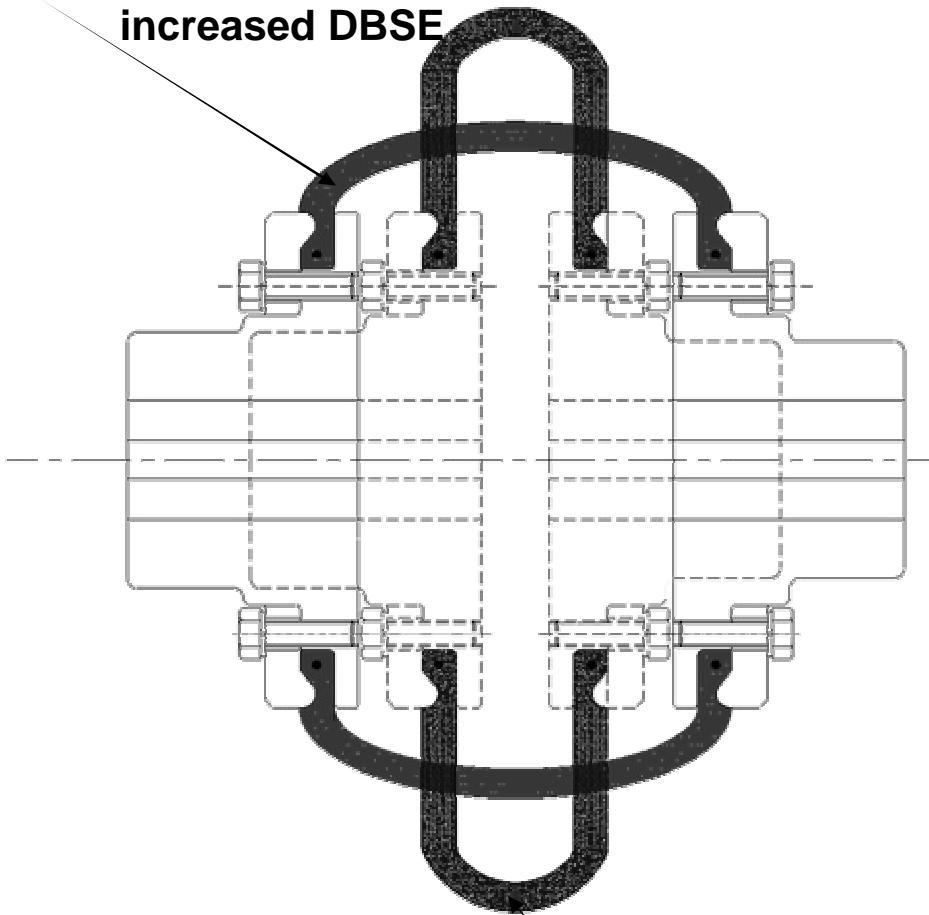


TYRE FAILURE

Tyre Coupling With
required DBSE

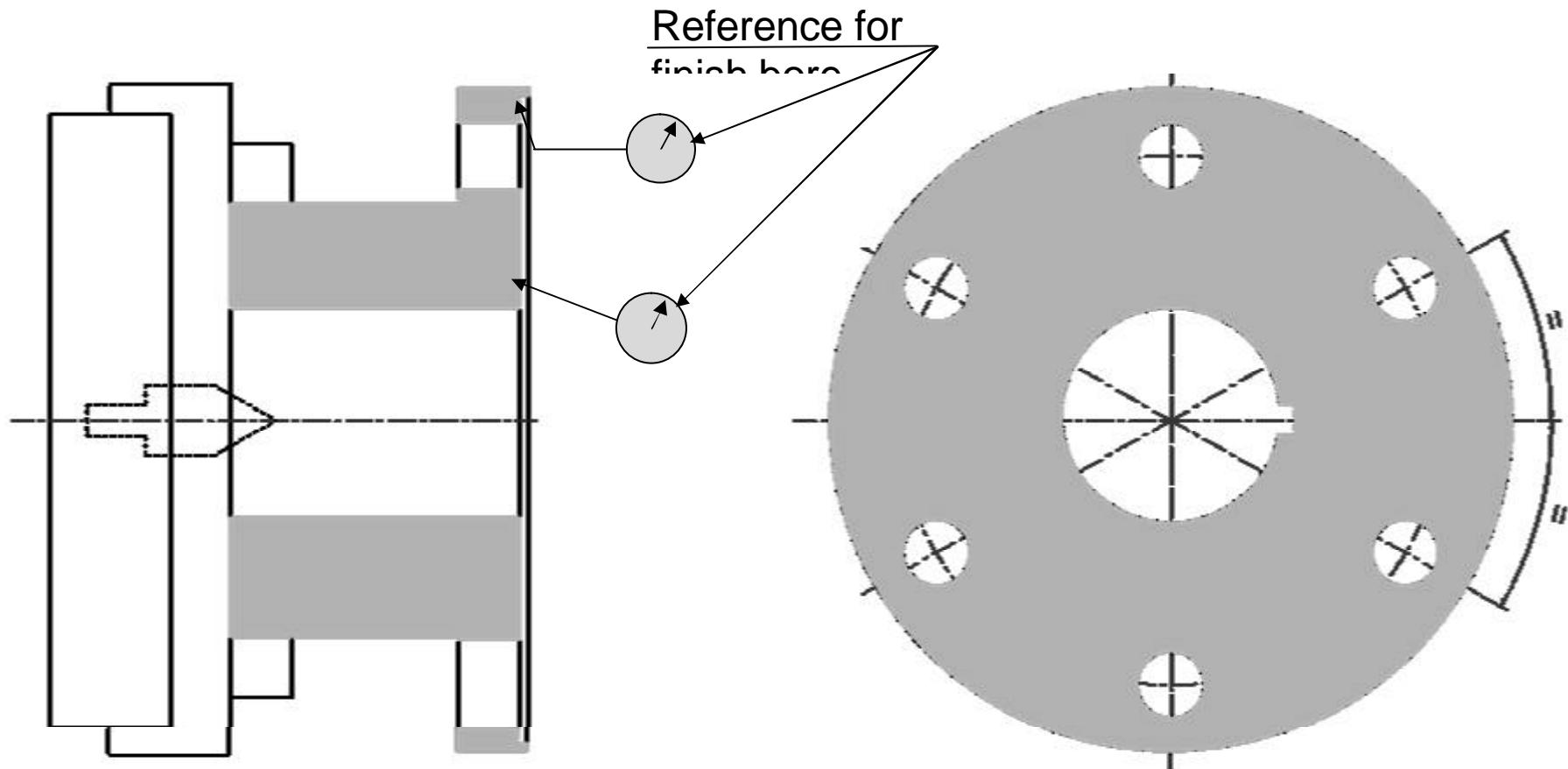


Tyre Coupling With
increased DBSE

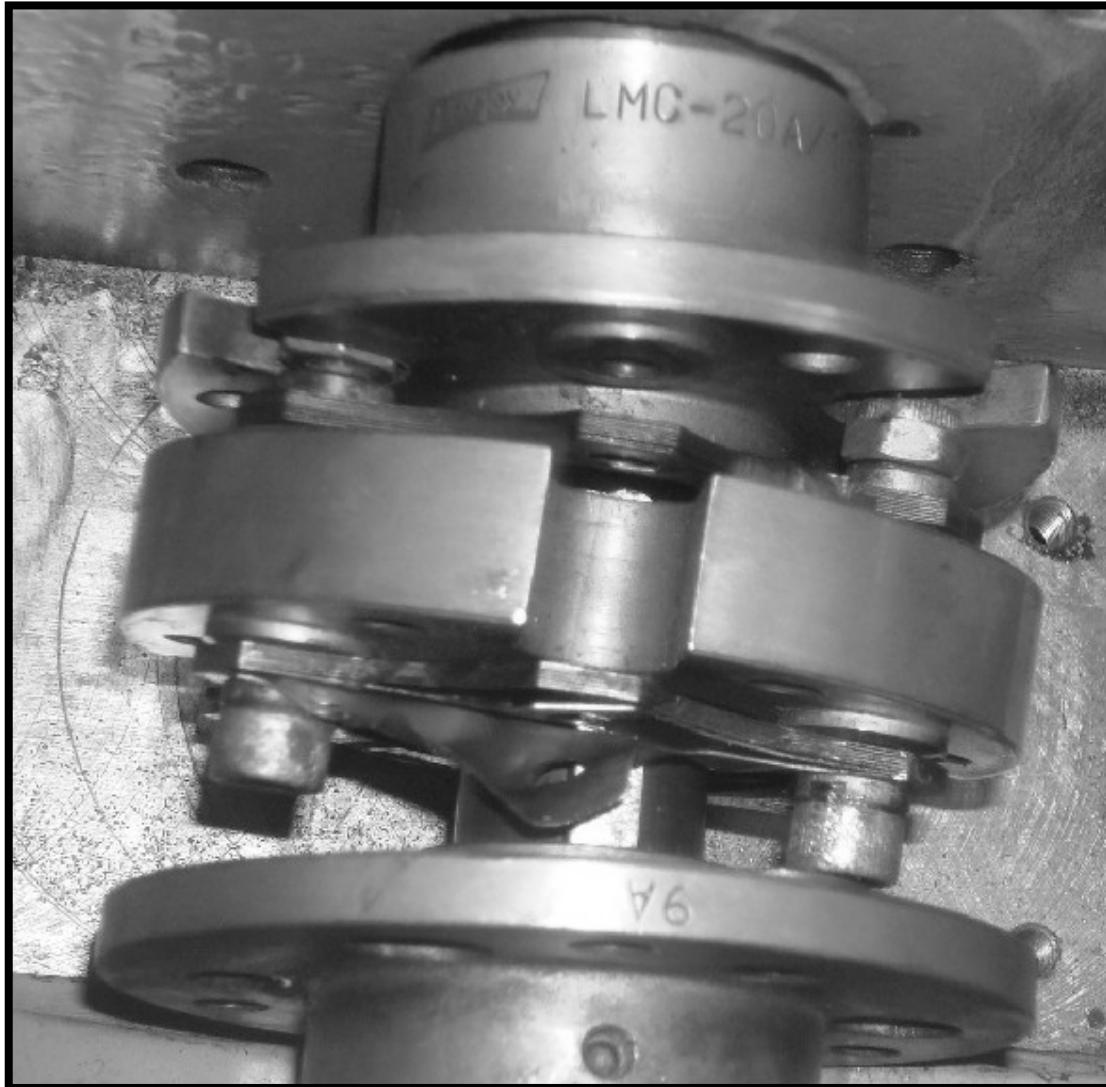


Tyre Coupling With
Less DBSE

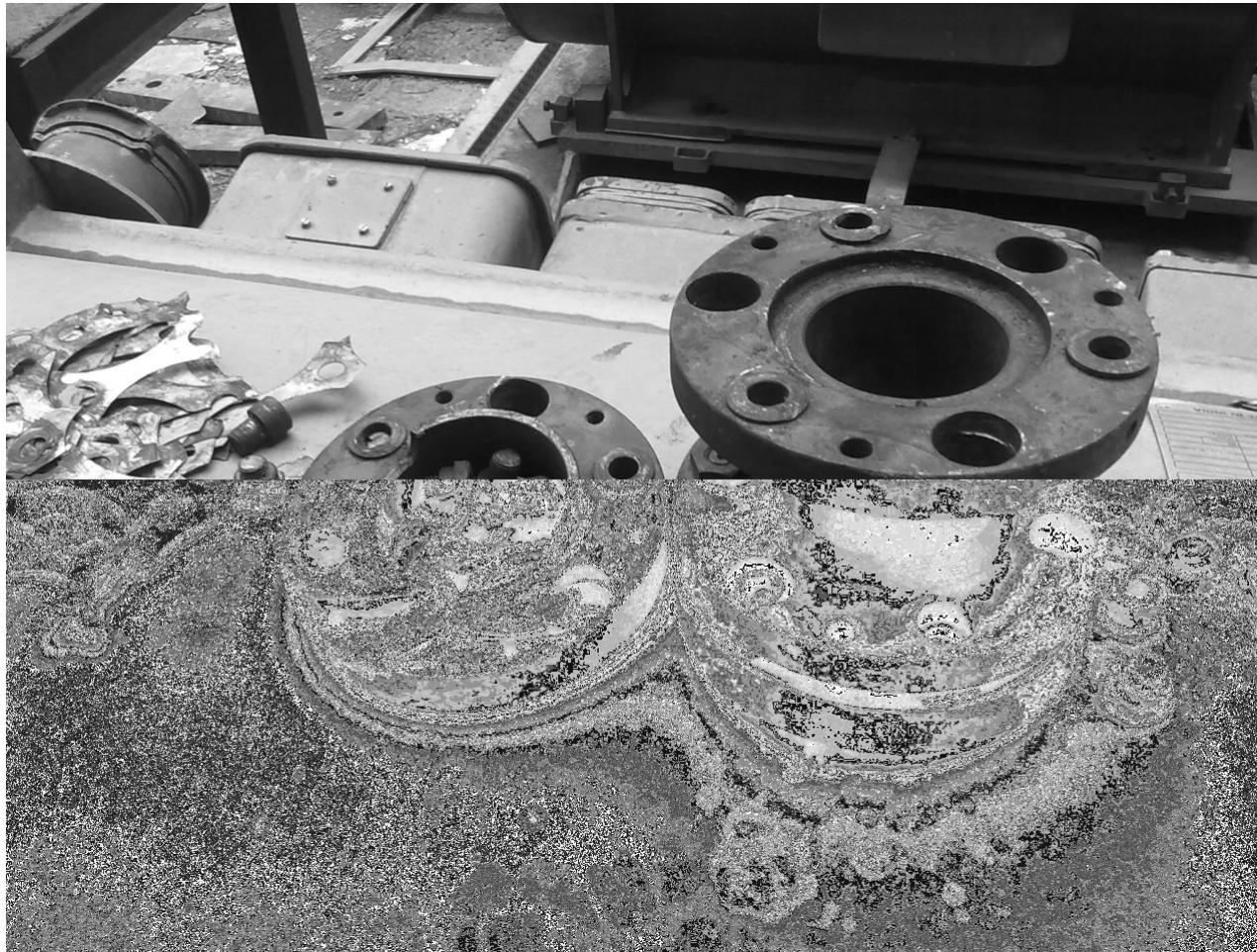
246

PROCEDURE FOR FINISH BORE

Application: Nuclear Reactor



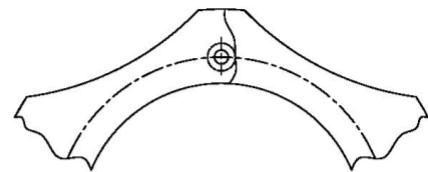
**Horizontal LMC
20(17.5) coupling
used for vertically.**



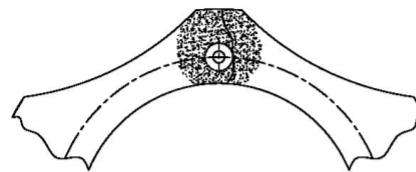
Incorrect Selection – Lower Size

249

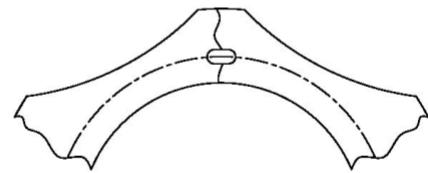
Turning Quality into a Revolution



Misalignment Failure



Fatigue Failure



Sketch of elongated bolt holes

Disc Failure



**Excessive angular
mis-alignment**

– Beyond limits



SWQ- 226 Adapter

- Excessive Interference Fit



Over loading

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Turning Quality into a Revolution



**Mis-aligned Coupling
- Vibration**

- Causes
 - A) Human Errors
 - B) Corrosion Induced Failures
 - C) Failure Caused by Wear
 - D) Fatigue Failure
 - E) Hardware Failure
 - F) Shaft Failures
- Majority of the problems : Caused by Vibrations
- & Misalignment is the Source of Vibrations