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2.4.4. Finite element modeling of the contact in the joint plane2.4.4.1. Normal problem or opening problem; 2.4.4.1.1. The cap is the "master" body; 2.4.4.1.2. The connecting rod body is the "master" solid; 2.4.4.1.3. Closing the equation system for the normal contact problem; 2.4.4.1.4. Algorithm for solving the normal problem; 2.4.4.2. Tangential problem or stick-slip problem; 2.4.4.2.1. Algorithm for solving the tangential problem; 2.4.4.3. Resolution algorithm for the joint plane behavior problem; 2.4.4.4. Example of computation with a 2D model
2.4.4.5. Example of computation with a 3D model2.4.5. Modelization of the contact between the housing and the shells; 2.4.5.1. Normal problem; 2.4.5.2. Tangential problem; 2.4.5.3. Contact algorithm; 2.5. Case of V engines; 2.6. Examples of connecting rod big end bearing computations; 2.6.1. Presentation of connecting rods and corresponding load diagrams; 2.6.1.1. Connecting rod for a gasoline engine; 2.6.1.2. Connecting rod for diesel engine; 2.6.1.3. Connecting rod for Formula 1 engine; 2.6.2. Geometry and lubricant data; 2.6.3. Analysis of some isothermal results
2.6.3.1. Minimum film thickness

Sommario/riassunto

This Series provides the necessary elements to the development and validation of numerical prediction models for hydrodynamic bearings. This book with the specific case of internal combustion engine (ICE) journal bearing lubrication. Many examples, relating to various types of ICE, are presented.