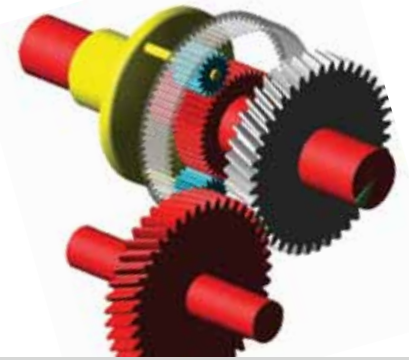


Adams/Gear Generator

Create and simulate different types and levels of gears in the Adams environment



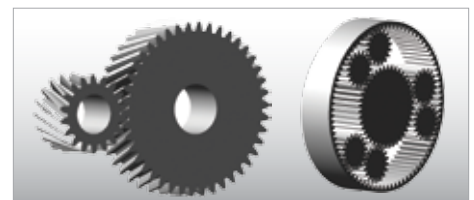
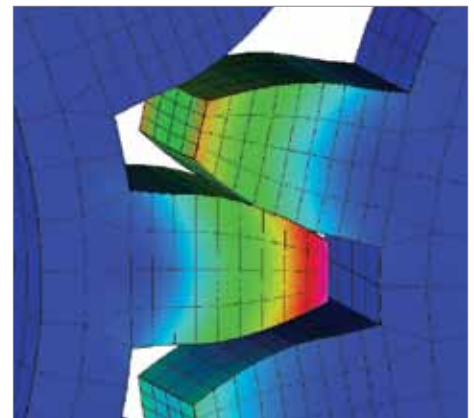
Overview

The Adams/Gear Generator Toolkit is a plugin for Adams developed in co-operation with end users. Adams/Gear Generator allows the user to create and simulate different types and levels of gears in the Adams environment.

Gear Generator can be used to analyze all kinds of applications where gears are included like passenger car gearboxes (manual/automatic), heavy vehicle gearboxes, windturbine transmissions, differentials, gear components in office utilities etc. The most common use is for load investigation in gears, shafts and bearings but also investigation of gear rattle phenomena and general system behaviour due to lash, variation of stiffness and losses in gears are common areas of use. With Adams/Gear Generator a complete gearbox with detailed tooth contact can be modelled easily without expert knowledge in Adams.

Some of the Adams/Gear Generator features are:

- UDE based Graphical user interface for creation of involute gears
- Installed as a regular Adams plugin to Adams/View and Adams/Car
- Automatic installation
- Detailed gear geometry creation enables user to achieve mass properties for the gear parts automatically
- Friction included in tooth contact (except 'Simplified' gear)
- 100% dynamic (force based) gear representation
- Spur gears & Helical gears (internal & external)
- Spiral and Straight Bevel gears
- Demo tool to get started included
- Wizard to create a complete planetary gear set included
- Online documentation
- Utilize regular MSC licensing system (FlexLM)
- Several Modelling options:
 - Enhanced Simplified Gears (Helical/Spur gears & Straight/Spiral Bevel gears)
 - › Analytical contact calculation (fast)
 - › Initial backlash as input value (design variable) for rattle investigations etc
 - › Spline based variable tooth stiffness
 - Detailed Spur Gears
 - › Analytical contact calculation (fast)
 - › "True" backlash based on actual working centre distance and tooth thickness
 - › Capture the effect of variation of loading between 1-3 teeth (noise generator)
 - Detailed 3D-contact based Gears (Helical/Spur gears & Straight/Spiral Bevel gears)
 - › Geometry based contact (extremely fast shell to shell contact)
 - › Fully 3D (6 Degrees Of Freedom)
 - › "True" backlash based on actual working centre distance and tooth thickness
 - › Possibility to explicitly set backlash for 3D contact based gears
 - › Tip relief & crowning modifications
 - Automatic creation of flexible gears (Modal Neutral File)
 - Generation of Nastran Input File



*Adams Gear Generator Toolkit is developed and sold on a consulting basis and is not an official MSC Software product. For more information about Adams Gear Generator Toolkit, contact your local MSC Software office, Adams distributor or MSC Software Sweden.

Please contact
toolkits@mscsoftware.com
for more information.

Corporate

MSC Software Corporation
 2 MacArthur Place
 Santa Ana, California 92707
 Telephone 714.540.8900
www.mscsoftware.com

Europe, Middle East, Africa

MSC Software GmbH
 Am Moosfeld 13
 81829 Munich, Germany
 Telephone 49.89.431.98.70

Asia-Pacific

MSC Software Japan LTD.
 Shinjuku First West 8F
 23-7 Nishi Shinjuku
 1-Chome, Shinjuku-Ku
 Tokyo, Japan 160-0023
 Telephone 81.3.6911.1200

Asia-Pacific

MSC Software (S) Pte. Ltd.
 100 Beach Road
 #16-05 Shaw Tower
 Singapore 189702
 Telephone 65.6272.0082



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