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OSCAM. Computer-aided cam mechanism design: installation

Associated software: OSCAM

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THE PREPARATION OF THIS DATA ITEM

The work on this particular Data Item was monitored and guided by the Mechanisms Committee, which has the following membership:

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The Mechanisms Committee, which first met in 1975, is continuing the work that previously was the responsibility of the former Gearing and Mechanisms Committee, which first met in November 1964. Like the earlier Committee it has the cooperation of many engineers and scientists in industry, research establishments and universities from whom much assistance and information is being received.

OSCAM. COMPUTER-AIDED CAM DESIGN: INSTALLATION

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OSCAM. COMPUTER-AIDED CAM DESIGN: INSTALLATION

1. INTRODUCTION

This Data Item, No. 00013, describes the installation details, hardware requirements and configuration details for OSCAM, a cam mechanism design program. The configuration details of associated printers and plotters are also provided.

OSCAM can model plane disc cam mechanisms composed of a cam, follower and return spring. Cams driving either translating or rotating followers can be modelled and the program can interface with the computer-aided mechanism design software OSMEC (see References 1, 2 and 3). The program is menu-driven, has on-line help and can be used to design cam mechanisms for applications involving high speeds and large forces.

OSCAM displays a drawing of the cam profile and graphs and tables of follower rise, velocity, acceleration and jerk, pressure angle, follower offset, bearing forces, camshaft torque and manufacturing tool cutter co-ordinates. The dimensions, masses, moments of inertia, return spring stiffness/preload and load forces/torques can be altered easily and quickly and the effects of these alterations are immediately analysed and displayed. Hard copy of the cam profile shape can be sent to a plotter or printer, or sent to a file for use in any program that can read HPGL files. OSCAM can produce a drawing of the cam profile to be exported in a DXF file format to CAD software.

Associated ESDU Data Item No. 00014 (Reference 4) provides a user manual for OSCAM.