

INTERNATIONAL STANDARD

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Commercial vehicles and buses — Cross-tooth gearbox flanges, type T

*Véhicules utilitaires et autobus — Brides de boîtes de vitesses à dents
croisées, type T*



Reference number
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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8667 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 15, *Interchangeability of components of commercial vehicles and buses*.

This second edition cancels and replaces the first edition (ISO 8667:1986), of which it constitutes a technical revision.

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Introduction

0.1 Gearbox flanges of types A and S, as specified in ISO 7646:1986, *Commercial vehicles and buses -- Gearbox flanges -- Type A* and ISO 7647:1986, *Commercial vehicles and buses -- Gearbox flanges -- Type S* respectively, are designed for force-locking (friction) torque transmission, their capacity for transmission being determined by the size of the flange and the bolts. As static or dynamic torque loads increase, however, a point is reached when these are inadequate, and there is a need for form-locking components.

Increasing problems are being encountered with the flange joint in the assembly of drive shafts for heavy lorries, as power tools cannot be used because of space limitations, and because the large bolts, M16 type, have to be tightened steadily to a torque loading of about 300 N·m for example.

With special vehicles it may also be necessary to replace the engine, transmission units or axles in the shortest possible time, but this can be impracticable with a conventional flange joint which has, for example, ten M16 bolts.

0.2 This form-locking flange joint has been developed to avoid the need to increase the size of the flange or bolts while achieving the required performance or to simplify assembly.

Initially, a flange joint with spiral bevel-type teeth was developed but this is expensive to manufacture. The flange joint specified in this International Standard overcomes the problems described above. It requires only four bolts which are smaller than comparable flanges of conventional construction, and the alignment of the drive shaft is not dependent on them. The drive shaft flange and the transmission flange centre themselves through the groups of teeth which intersect at 70°; this improves alignment, and play, which occurs in conventional joints, is eliminated. As the drive is transmitted through the teeth, the axial force arising under torque loading, which must be carried by the bolts, is relatively low. A further feature is that jamming between flanges during dismantling is prevented.

0.3 The teeth can be produced on a universal milling machine with special cutters for short production runs, while for mass production the use of a surface broaching machine is envisaged. The simple tooth form can be measured easily, thus ensuring interchangeability between components made by different manufacturers.