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# INTERNATIONAL STANDARD



# 413

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Aircraft — Heads of lubricating nipples

*Aéronefs — Têtes de graisseurs*

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**Descriptors** : aircraft equipment, lubrication systems, grease nipples, dimensions.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 413 (formerly draft International Standard ISO/DIS 2134) was drawn up by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, and circulated to the Member Bodies in December 1970.

It has been approved by the Member Bodies of the following countries :

Austria	Israel	Spain
Belgium	Italy	Turkey
Canada	Japan	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
Egypt, Arab Rep. of	New Zealand	U.S.S.R.
France	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

This International Standard cancels and replaces ISO Recommendation R 413-1965, of which it constitutes a technical revision.

# Aircraft – Heads of lubricating nipples

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the envelope dimensions for the heads of aircraft lubricating nipples of the axial type and determines the clearance space which shall be provided in the region of the lubricating nipple to allow the lubricating gun to be connected, and the operating angle dimensions for the lubricating process.

## 2 DIMENSIONS

2.1 The envelope dimensions for the heads of aircraft lubricating nipples of the axial type are shown in figure 1. The tip design of the nipples is optional provided the profile remains within the envelope shown.

2.2 The design detail of the tip shall be such that the nipple will admit lubricant when the lubricating gun connector is attached to the tip at any angle up to 10° between the axis of the connector and the axis of the tip, in any radial direction, without leakage occurring between the tip and the connector.

2.3 Sufficient clearance space shall be provided around and approaching the lubricating nipple to allow for the

lubricating gun connector coupling and uncoupling requirements shown in figure 2. It should be noted that, in uncoupling, the connector has to be tilted up to 25° in any one radial direction.

TABLE – Dimensions

Dimension	mm	in
$\phi A$	6,86 max. 6,30 min.	0.270 max. 0.248 min.
$\phi B$	5,33 max. 3,57 min.	0.210 max. 0.140 min.
$\phi C$	5,95 max. 4,44 min.	0.234 max. 0.175 min.
$D$	2,79 max. 1,98 min.	0.110 max. 0.078 min.
$E$	2,38	0.094
$F$ rad.	3,43	0.135
$G$ rad.	0,81	0.032

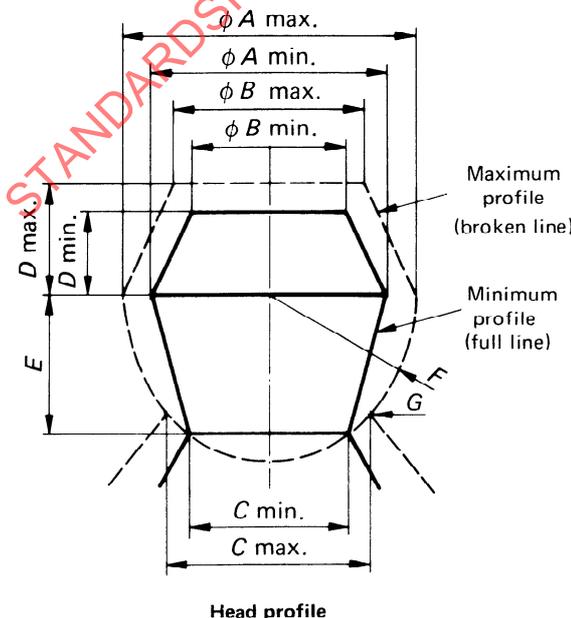


FIGURE 1 – Head of lubricating nipple

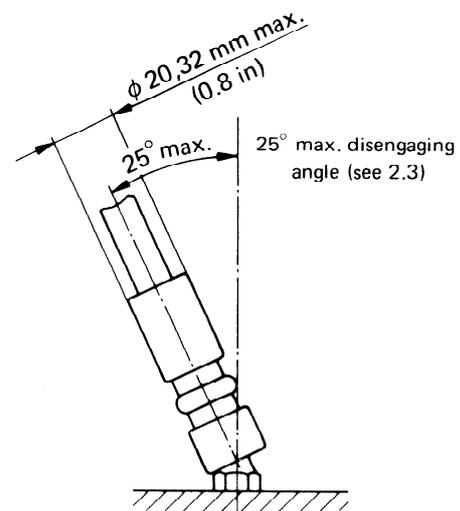


FIGURE 2 – Lubricating gun connector coupling and uncoupling requirements