INTERNATIONAL STANDARD 1465

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

Aircraft — Liquid oxygen replenishment couplings — Mating dimensions

Aéronefs — Raccords de remplissage en oxygène liquide — Dimensions de raccordement

First edition — 1976-06-01

UDC 629.7.063 : 621.643.4

Ref. No. ISO 1465-1976 (E)

Descriptors : aircraft, filling devices, pipe fittings, liquefied gases, oxygen, interchangeability.

Price based on 3 pages

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.

Prior to 1972, the results of the work of the Technical Committee were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 20 has reviewed ISO Recommendation R 1465 and found it technically suitable for transformation. International Standard ISO 1465 therefore replaces ISO Recommendation R 1465-1971 to which it is technically identical.

ISO Recommendation R 1465 had been approved by the Member Bodies of the following countries :

Australia	Israel	Spain
Belgium	Italy	Switzerland
Canada	Netherlands	Thailand
Czechoslovakia	New Zealand	Turkey
Egypt, Arab Rep. of	Portugal	United Kingdom

The Member Bodies of the following countries had expressed disapproval of the Recommendation on technical grounds :

France
U.S.S.R.

The Member Bodies of the following countries disapproved the transformation of ISO/R 1465 into an International Standard :

France
Germany
U.S.S.R.

Printed in Switzerland

Aircraft — Liquid oxygen replenishment couplings — Mating dimensions

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the mating and clearance dimensions of aircraft liquid oxygen replenishment couplings.

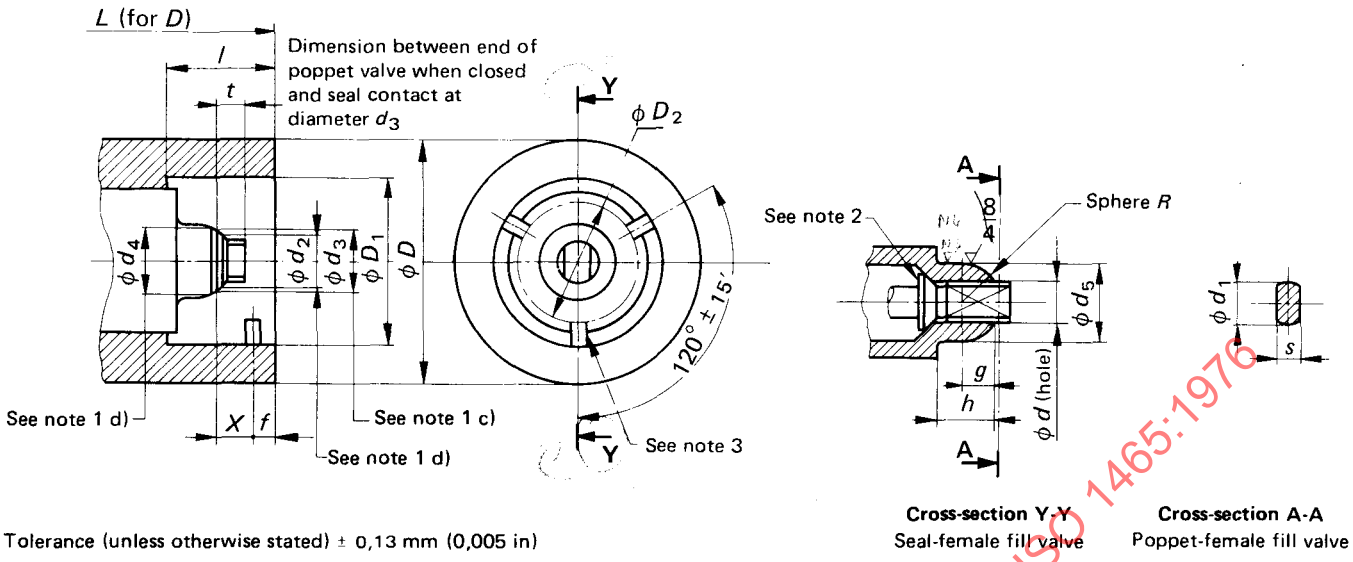
2 INTERCHANGEABILITY

2.1 The mating dimensions and characteristics of the ground half of the liquid oxygen replenishment coupling shall conform to those in figure 1 and table 1.

2.2 The aircraft half of the replenishment coupling for liquid oxygen shall mate with the ground half replenishment coupling.

3 CLEARANCE ENVELOPE

The clearance envelope in the aircraft to accommodate the ground half of the replenishment coupling, for the purposes of coupling and uncoupling the hose unit, shall be in accordance with figure 2 and table 2.



Tolerance (unless otherwise stated) ± 0,13 mm (0,005 in)

FIGURE 1 — **Ground half of liquid oxygen replenishment coupling**

NOTES

1 The valve seal shall be held in its longitudinal position by means of a spring having the following characteristics :

a) Spring rate 1,3 ± 0,29 mm deflection per daN (0.022 8 ± 0.005 in deflection per lbf).

b) In the fully coupled position, the sealing zone of the nose shall remain leak-proof through all positions of dimension X (figure 1), i.e. from 10,1 mm to 25 mm (0.398 in to 0.985 in), and shall produce a load on the seal of the aircraft-half connector of 22,2 ± 2,2 daN (50 ± 5 lbf) when dimension X is 12 mm (0.470 in). The load shall not exceed 35,6 daN (80 lbf) for any value of X in its permitted range.

c) Seal contact at 12,7 mm (0.500 in) gauge diameter is assumed for the purpose of this International Standard.

d) The sealing zone lies between diameters d_2 and d_4.

2 In the uncoupled position, the valve poppet shall be held by means of a spring having the following characteristics :

a) Spring rate 5,0 ± 0,57 mm deflection per daN (0.087 6 ± 0.01 in deflection per lbf).

b) The spring shall provide a force of 2,67 ± 0,22 daN (6 ± 0,5 lbf) when the leading face of the poppet is located flush with the forward face of the seal.

c) The range of movement of the poppet valve shall be permitted to a depth of 2 mm (0.080 in) within the seal.

3 Fastening is ensured by three engagement pins each 4,09/3,85 mm (0.161/0.15 in) diameter equally spaced and perpendicular to the valve centre line within 0,25 mm (0.010 in) full indicator movement (F.I.M.).

TABLE 1 — **Mating dimensions of ground-half of liquid oxygen replenishment coupling**

Dimension		mm	in
D	max.	51,2	2.016
D_1	max.	35,76	1.408
	min.	35,71	1.406
D_2	max.	28,98	1.141
	min.	28,17	1.109
d	max.	8,79	0.346
	min.	8,69	0.342
d_1	max.	8,59	0.338
	min.	8,48	0.334
d_2	min.	10,9	0.430
d_3		12,7	0.500
d_4	max.	15,2	0.600
d_5	max.	16,0	0.630
	min.	15,7	0.620

Dimension		mm	in
f	max.	4,09	0.161
g	max.	6,48	0.255
	min.	6,22	0.245
h	max.	12,04	0.474
	min.	11,79	0.464
L	max.	76,2	3.000
l	min.	21,3	0.840
R	max.	8,00	0.315
	min.	7,87	0.310
s	max.	4,9	0.193
	min.	4,65	0,183
t	max.	4,95	0.195
	min.	4,45	0.175

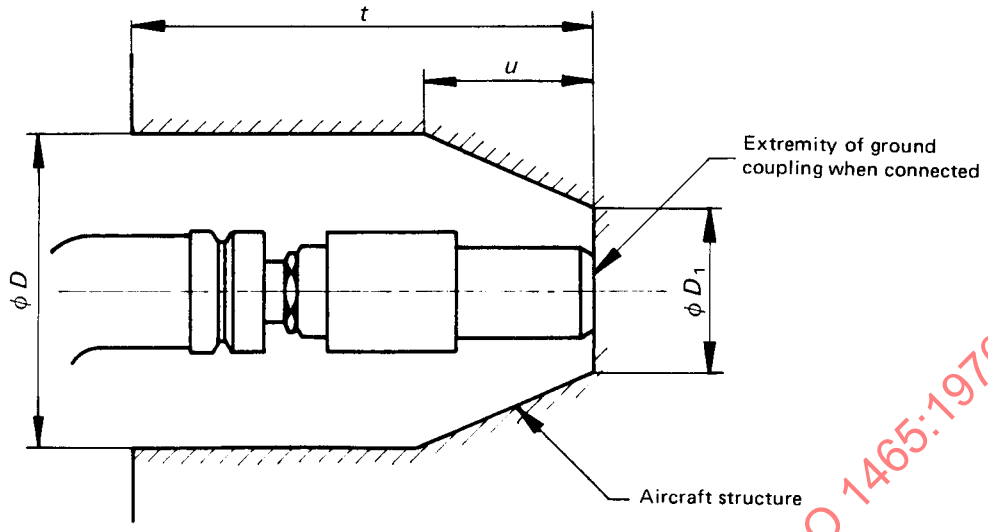


FIGURE 2 — **Clearance envelope for liquid oxygen replenishment coupling**

TABLE 2 — **Dimensions of clearance envelope**

Dimension		mm	in
t	max.	279,4	11.000
u	max.	101,6	4.000
D	min.	177,8	7.000
D_1	min.	95,25	3.750

NOTE — In establishing the above clearance envelope, consideration has been given to the provision of sufficient room for easy insertion of the ground servicing connector by an operator wearing heavy gloves and for a connecting hose having a minimum bend radius of 152,4 mm (6.0 in).