# INTERNATIONAL STANDARD 1963

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

# Aircraft — Interchangeability dimensions of battery connectors for automatic coupling

First edition — 1973-04-01



UDC 629.7.064.5 : 621.316.541

Ref. No. ISO 1963-1973 (E)

**Descriptors** : aircraft, aircraft equipment, electric batteries, electric connectors, interchangeability, dimensions.

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.

International Standard ISO 1963 was drawn up by Technical Committee ISO/TC 20, *Aircraft and space vehicles,* and circulated to the Member Bodies in May 1970.

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

| | | |
|---|---|---|
| Belgium | Greece | Romania |
| Brazil | India | Spain |
| Canada | Israel | Switzerland |
| Czechoslovakia | Italy | Turkey |
| Egypt, Arab Rep. of | Japan | United Kingdom |
| France | Netherlands | U.S.S.R. |
| Germany | New Zealand | |

The Member Body of the following country expressed disapproval of the document on technical grounds :

U.S.A.





Printed in Switzerland

# Aircraft — Interchangeability dimensions of battery connectors for automatic coupling



## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the interchangeability dimensions of battery connectors with automatic coupling which may be used in locations on an aircraft when the battery is lifted vertically or inserted horizontally into a restricted space.

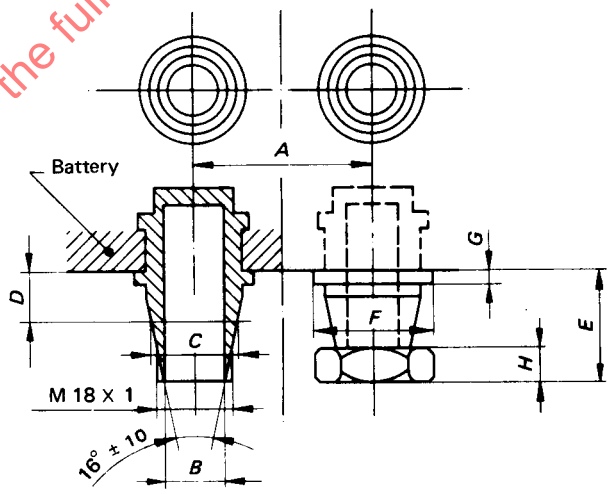
## 2 DESCRIPTION

The connector system consists of three elements, as follows :

a) Two sockets forming an integral part of the battery and connected internally to the positive and negative terminals. These sockets shall conform to Figure 1. Each socket is fitted with a nut.

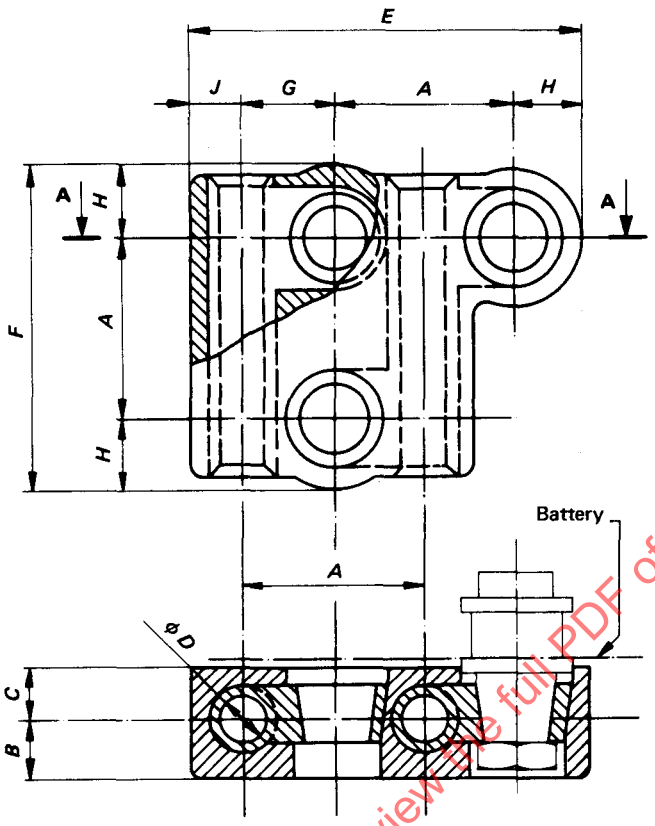
b) A detachable part which permits a multiplicity of coupling arrangements, and is fixed to the sockets of the battery (element a) above). It comprises a part made of insulating material supporting two metal inserts. This assembly shall conform to Figure 2.

c) Two pins capable of 3 mm (0,118 in) displacement about their theoretical rest position, mounted on a support permanently fixed to the aircraft structure (male portion). These pins, when inserted into the female inserts (element b) above) fixed to the battery, shall ensure adequate electrical continuity. This assembly shall conform to Figure 3.




| Dimension | mm | in |
|---|---|---|
| A | 46 ± 0,1 | 1.811 ± 0.004 |
| B | $13{,}75^{+0{,}027}_{0}$ | $0.541\,3^{+0.001\,1}_{0}$ |
| C | 20,28 | 0.798 4 |
| D | 12 ± 1 | 0.473 ± 0.04 |
| E | 28 ± 1 | 1.102 ± 0.04 |
| F | 30 max. | 1.181 max. |
| G | 5 max. | 0.097 max. |
| H | 6 max. | 0.237 max. |

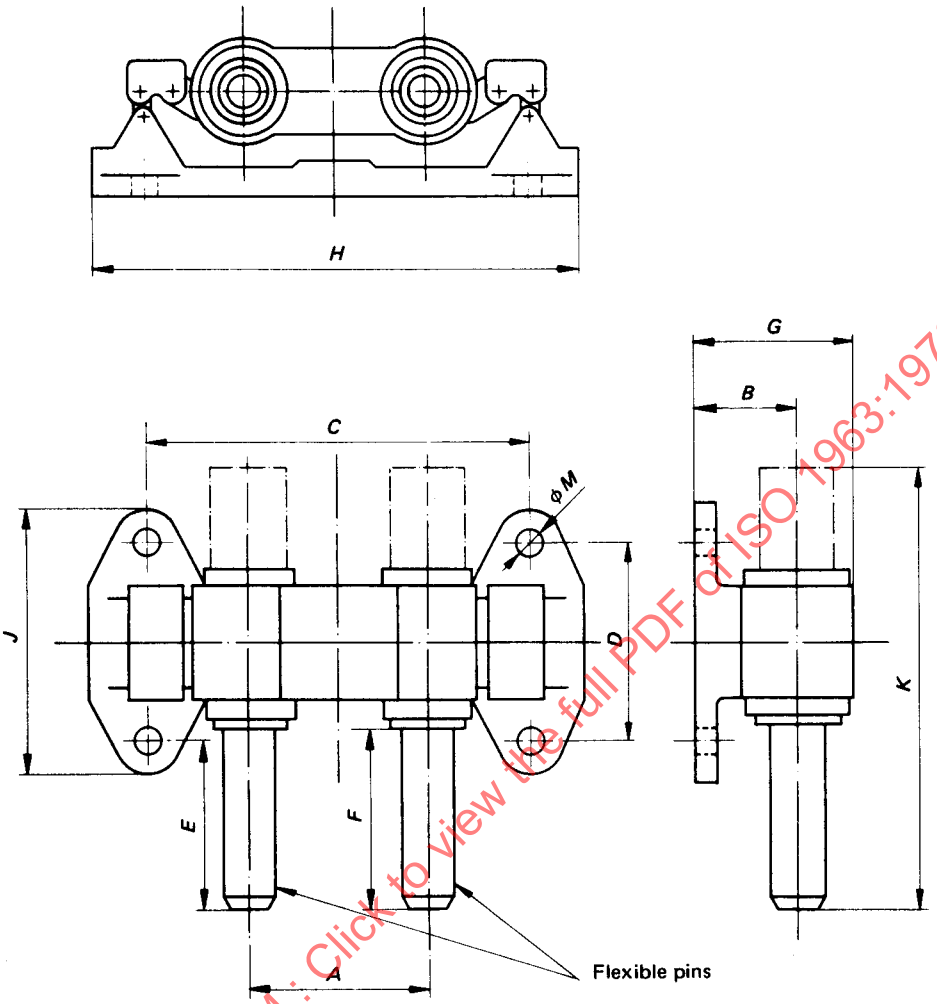
FIGURE 1 — **Battery sockets**




Section A – A

| Dimension | mm | in |
|---|---|---|
| A | 46 ± 0.20 | 1.811 ± 0.008 |
| B | 15 ± 0.01 | 0.590 ± 0.000 4 |
| C | 14 ± 0.01 | 0.551 ± 0.000 4 |
| D | $13{,}75\ ^{+0{,}027}_{0}$ | $0.541\ 3\ ^{+0.001\ 1}_{0}$ |
| E | 101,6 max. | 4 max. |
| F | 82 max. | 3.228 max. |
| G | 23 ± 0.05 | 0.905 ± 0.002 |
| H | 18 max. | 0.709 max. |
| J | 13 max. | 0.512 max. |

FIGURE 2 – **Fixed part**




| Dimension | mm | in |
|---|---|---|
| A | 46 ± 0,1 | 1.811 ± 0.004 |
| B | 26 ± 0,5 | 1.02 ± 0.02 |
| C | 98 ± 0,5 | 3.858 ± 0.02 |
| D | 50 ± 0,5 | 1.968 ± 0.02 |
| E | $42\ ^{0}_{-1}$ | $1.653\ ^{0}_{-0,04}$ |
| F | 45 ± 1 | 1.772 ± 0.04 |
| G | 40,6 max. | 1.598 max. |
| H | 126 max. | 4.960 max. |
| J | 66 max. | 2.598 max. |
| K | 127 max. | 5 max. |
| M | 5,5 | 0.218 |

FIGURE 3 — **Male part**