

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1185

ELECTRICAL CONNECTIONS
BETWEEN PRIME MOVERS AND TOWED VEHICLES
WITH 24 V ELECTRICAL EQUIPMENT
FOR COMMERCIAL INTERNATIONAL TRAFFIC

1st EDITION

March 1970

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BRIEF HISTORY

The ISO Recommendation R 1185, *Electrical connections between prime movers and towed vehicles with 24 V electrical equipment for commercial international traffic*, was drawn up by Technical Committee ISO/TC 22, *Automobiles*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of a Draft ISO Recommendation.

In October 1968, this Draft ISO Recommendation (No. 1723) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Italy	Switzerland
Belgium	Netherlands	Thailand
Chile	New Zealand	U.A.R.
France	Portugal	United Kingdom
Greece	Romania	U.S.A.
Hungary	Spain	U.S.S.R.
Israel	Sweden	

Two Member Bodies opposed the approval of the Draft : ———

Germany
Japan

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1970, to accept it as an ISO RECOMMENDATION.

ISO Recommendation

R 1185

March 1970

**ELECTRICAL CONNECTIONS
BETWEEN PRIME MOVERS AND TOWED VEHICLES
WITH 24 V ELECTRICAL EQUIPMENT
FOR COMMERCIAL INTERNATIONAL TRAFFIC**

1. SCOPE

This ISO Recommendation establishes the specifications which will permit, by means of a connector socket and a plug, interchangeability of electrical connections between prime movers and towed vehicles, that is to say between the towing vehicle and trailer or semi-trailer (see Fig. 1).

2. FIELD OF APPLICATION

These specifications apply to vehicles in commercial and international traffic, fitted with electrical equipment operating at a nominal voltage of 24 V.

3. GENERAL REQUIREMENTS**3.1 Number of necessary contacts**

The essential signalling lights which warrant road security require six contacts, the functions of which are as follows :

- (1) Common return.
- (2) Left-hand tail and marker lamps, and number plate lamp.
- (3) Left-hand direction indicator.
- (4) Stop lamps.
- (5) Right-hand direction indicator.
- (6) Right-hand tail and marker lamps, and number plate lamp.
- (7) Spare *.

A 7 contact plug is therefore sufficient, as it is desirable to have one contact in reserve.

* A specific purpose might be found for the contact in reserve, which will be mentioned when necessary in an addendum to this ISO Recommendation.

3.2 Basis for the specifications

The Anglo-American SAE or SMMT plug has been taken as a basis for the following specifications.

3.3 Arrangement of the contacts

Figure 2 shows the arrangement of the contacts for the socket and Figure 3 the arrangement for the plug.

The numbers designating the contacts correspond to those indicated in clause 3.1.

3.4 Socket

The socket should be attached on the rear of the towing vehicle in the case of a trailed vehicle. It should be attached on the semi-trailer in the case of an articulated vehicle.

The socket should be provided with

- 6 contact pins (No. 2 to 7) the diameters of which are $4.76 \begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$ mm;
- 1 contact pin (No. 1) the diameter of which is $6.35 \begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$ mm.

The contact designations should be permanently marked on the inside of the socket cover and on the terminal face in signs not less than 2 mm high.

These signs are not necessarily numbers, as indicated on Figure 2.

Contact No. 1 should be insulated, like the other contacts. After fitting, contact No. 1 should be connected to the common earth return of the vehicle by a special connection.

Ferrous metallic parts of the socket should be adequately protected against corrosion.

The socket should be provided with a water-tight cover which should close automatically when the plug is disengaged. The hinged cover on the socket should be provided with a locking lug to retain the plug when it is engaged.

3.5 Plug

The plug should be attached to the trailer in the case of a trailed vehicle and to the towing vehicle in the case of an articulated vehicle.

The plug should be provided with

- 6 spring sockets corresponding to pins No. 2 to 7;
- 1 socket corresponding to pin No. 1.

The internal diameter of the sockets should be such that the corresponding pins may be connected with a moderate push, but they should ensure a good electrical contact.

It should be impossible to connect pin No. 1 to any of the sockets No. 2 to 7.

Ferrous metallic parts of the plug should be adequately protected against corrosion.

The contact designations should be permanently marked on the terminal face of the plug in signs not less than 2 mm high.

The manufacturer may choose the appropriate method for connecting and sealing the cable.

Dimensions in millimetres

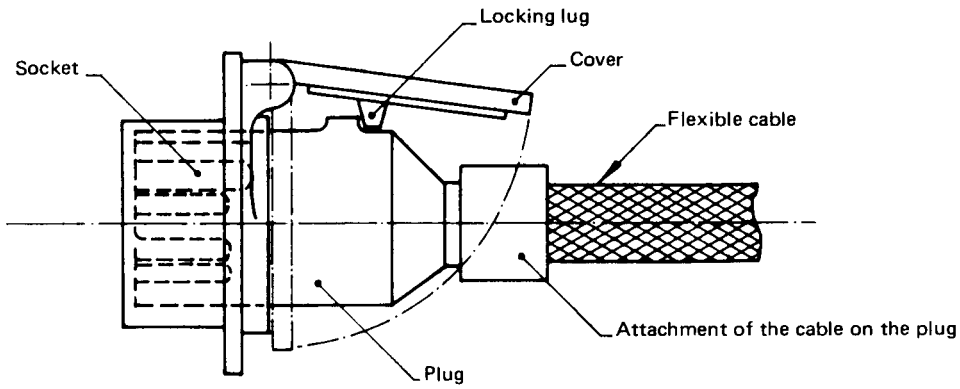


FIG. 1 - Socket and plug

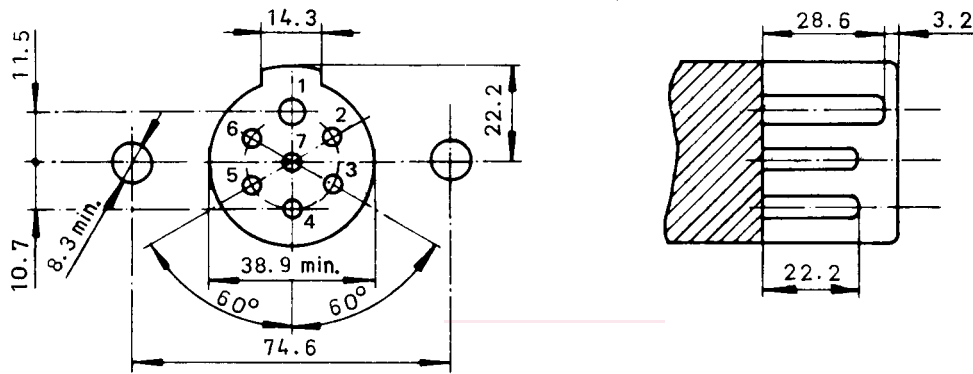


FIG. 2 - Socket

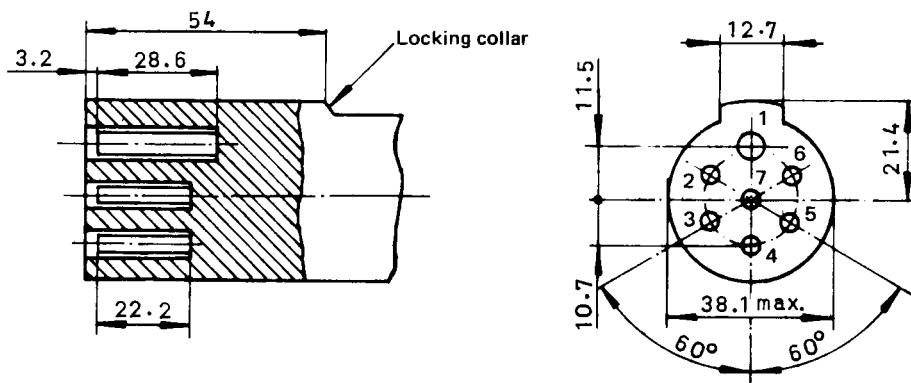


FIG. 3 - Plug

NOTE. - For dimensions other than maximum or minimum, and for which no special indication is given, a tolerance of ± 0.1 mm may be accepted.