International Standard 7572

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

Conditions of acceptance and installation for work-holding fixed tables of machine tools

Conditions de réception et d'installation des taques porte-pièces pour machines-outils

First edition — 1984-05-01

UDC 621.914.4 **Ref. No. ISO 7572-1984 (E)**

Descriptors : machine tools, machine tables, work-holding fixed tables, installation, testing conditions, dimensional measurements, accuracy.

Price based on 8 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (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 authorized 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 7572 was developed by Technical Committee ISO/TC 39, *Machine tools*, and was circulated to the member bodies in October 1982.

It has been approved by the member bodies of the following countries :

Belgium	Hungary	Poland
Brazil	India	South Africa, Rep. of
China	Italy	Spain
Czechoslovakia	Japan	Sweden
Egypt, Arab Rep. of	Korea, Dem. P. Rep. of	Switzerland
France	Korea, Rep. of	United Kingdom
Germany, F.R.	Mexico	USA

The member body of the following country expressed disapproval of the document on technical grounds :

USSR

Printed in Switzerland

Conditions of acceptance and installation for work-holding fixed tables of machine tools

1 Scope and field of application

This International Standard defines the work-holding fixed tables of machine tools. It also describes, with reference to ISO/R 230, both geometrical tests and the conditions of installation of these fixed tables and gives the corresponding permissible deviations which apply for two classes of accuracy (qualities A and B).

2 References

ISO/R 230, *Machine tool test code.*

ISO 3070/0, *Test conditions for boring and milling machines with horizontal spindle — Testing of the accuracy — Part 0 : General introduction.*

ISO 3070/2, *Test conditions for boring and milling machines with horizontal spindle — Testing of the accuracy — Part 2 : Floor type machines.*

3 Definition

work-holding fixed table (sometimes called a floor-plate) for machine tools : Plate provided with inner ribs and T slots on its "functional surface".

The dimensions of these fixed tables are variable. Very large fixed tables are often made up of several parts, which may or may not be identical.

Securing to the ground is ensured by fixing bolts. Levelling is carried out with the aid of a special device, for example : a special screw.

4 Mounting and use

This fixed table is normally mounted at the side of the bed of the corresponding machine which is often a milling machine of great capacity or a boring and milling machine (see figure 1).

It is placed so that the axis of the T slots are perpendicular or parallel to the spindle axis.

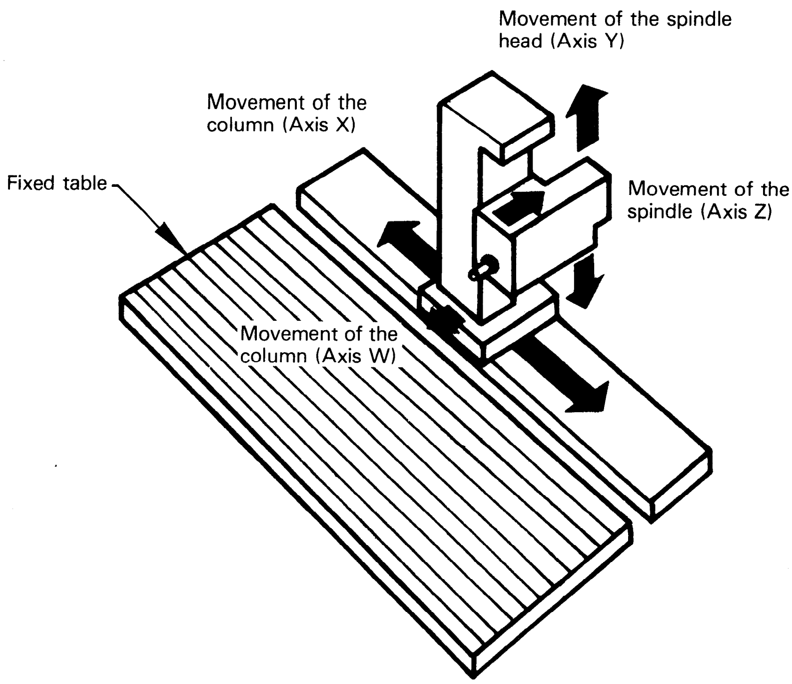


Figure 1

5 Preliminary remarks

5.1 In this International Standard, all dimensions and permissible deviations are expressed in millimetres and in inches.

5.2 To apply this International Standard, reference should be made to ISO/R 230, especially for description of measuring methods and recommended accuracy of testing equipment.

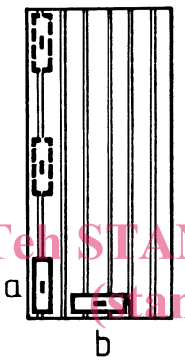
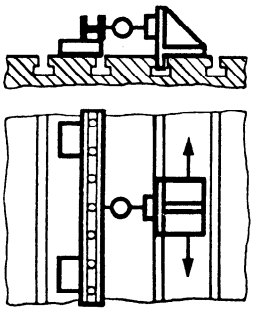
5.3 When establishing the tolerance for a measuring range different from that given in this International Standard (see clause 2.311 in ISO/R 230) it should be taken into consideration that the minimum value of tolerance is 0,01 mm (0.000 4 in).

5.4 The data concerning 6.2 "Conditions of installation" of this International Standard are intended only to serve as a guide for the user for installation of the fixed table at the side of the corresponding machine.

The permissible deviations which are given take into account the fact that the setting up of the work piece before machining is always carried out in relation to the machine and not in relation to the fixed table.

6 Conditions of acceptance, installation and of tolerances

6.1 Geometrical tests

No.	Diagram	Object
G 1		Checking of flatness of the surface of the fixed table.
G 2		Checking of straightness of the median or reference T slot or the reference face of the fixed table.

Permissible deviation		Measuring instruments	Observations and references to the test code ISO/R 230
mm	in		
Fixed table — Quality A		Precision level or optical methods	Clauses 5.322 and 5.323
0,05 up to 1 000	0.002 up to 40		
or each 1 000 mm (40 in) increase in length add to e preceding tolerance			
0,02	0.000 8		
Maximum permissible deviation :			
0,15	0.006		
Fixed table — Quality B			
0,08 up to 1 000	0.003 2 up to 40		
or each 1 000 mm (40 in) increase in length add to ie preceding tolerance			
0,03	0.001 2		
Maximum permissible deviation :			
0,4	0.016		
Fixed table — Quality A		Straightedge and dial gauge or microscope and taut wire or optical methods	Clauses 5.212, 5.212.1, 5.212.22, 5.212.3 or 5.232 The straightedge may be set directly on the fixed table.
0,02	0.000 8		
for any measuring length of			
1 000	40		
Maximum permissible deviation :			
0,1	0.004		
Fixed table — Quality B			
0,035	0.001 4		
for any measuring length of			
1 000	40		
Maximum permissible deviation :			
0,3	0.012		

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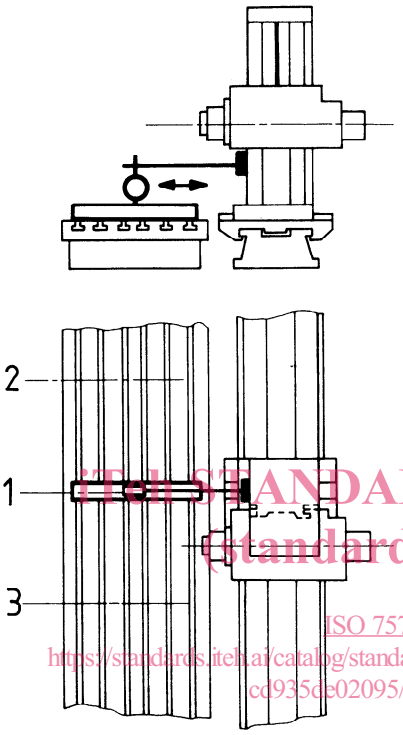
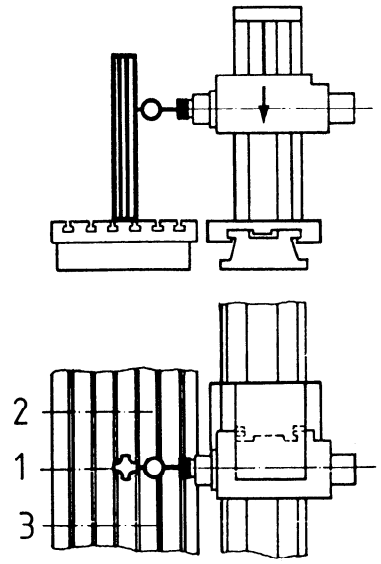
6.2 Conditions of installation

No.	Diagram	Object
G 3	 **ALTERNATIVE** for the case where the column is not provided with a movement along the W axis 	Checking of parallelism of the surface of the fixed table to the column longitudinal movement (along the W axis). Checking of squareness of the surface of the fixed table with respect to the vertical movement of the spindle head (along the Y axis) in a vertical plane passing through the spindle axis.