

AS 2953.3—1988/ISO 5353—1978

Australian Standard<sup>®</sup>

---

**EARTH-MOVING MACHINERY—  
HUMAN DIMENSIONS**

**Part 3—SEAT INDEX POINT**

---

(ISO Title: Earth-moving machinery and tractors and machinery for agriculture and forestry—Seat index point)

This Australian Standard was prepared by Committee ME/63, Earthmoving Equipment. It was approved on behalf of the Council of the Standards Association of Australia on 3 March 1988 and published on 17 June 1988.

---

The following interests are represented on Committee ME/63:

Australian Mining Industry Council  
Bureau of Steel Manufacturers of Australia  
Construction Equipment Importers and Manufacturers of Australia  
Department of Administrative Services  
Department of Conservation, Forests and Lands, Vic.  
Department of Defence  
Department of Forestry, Qld.  
Department of Industrial Relations and Employment, N.S.W.  
Department of Labour, Vic.  
Department of Mines, Qld.  
Earth-movers and Road Contractors Association of Australia  
Forestry Commission of New South Wales  
Local Government Engineers Association of New South Wales  
Metal Trades Industry Association of Australia  
National Association of Australian State Road Authorities  
Rural Water Commission, Vic.  
Safety Institute of Australia  
Telecom Australia  
Tractor and Machinery Association of Australia  
Water Board, Sydney

---

***Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

*Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.*

*Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.*

---

*This Standard was issued in draft form for comment as DR 85184.*

AS 2953.3—1988/ISO 5353—1978

Australian Standard®

---

**EARTH-MOVING MACHINERY—  
HUMAN DIMENSIONS**

**Part 3—SEAT INDEX POINT**

---

(ISO Title: Earth-moving machinery and tractors and machinery for agriculture and forestry—Seat index point)

First published as AS 2953.3/ISO 5353—1988.

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 4995 5

CONTENTS

	<i>Page</i>
1 SCOPE .....	3
2 FIELD OF APPLICATION .....	3
3 DEFINITION .....	3
4 DEVICE FOR DETERMINATION OF SEAT INDEX POINT .....	3
5 ADJUSTMENT OF THE SEAT WHEN DETERMINING THE SEAT INDEX POINT .....	3
6 ESTABLISHMENT OF THE THREE REFERENCE AXES X', Y', Z' FOR THE SIP .....	4
7 METHOD OF DETERMINING THE SEAT INDEX POINT .....	4
8 REPORT .....	4
ANNEX HIP POINT H .....	7

---

FOREWORD

1. This Australian Standard corresponds with ISO 5353—1978, *Earth-moving machinery and tractors and machinery for agriculture and forestry—Seat index point*. The Standard includes Amendment 1 (published 1981-05-15) to Clauses 2, 6, 8 and A.4(k) and Amendment 2 (published 1984-11-01) to the title and Clause 2. These amendments are indicated by a rule in the margin.
2. Introduction to and complete listing of the SAA series of earth-moving machinery Standards (AS 2951 to AS 2958) is available on request.
3. For the purpose of this Australian Standard the words 'International Standard' should be replaced by 'Australian Standard'.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

# Earth-moving machinery—Human dimensions

## Part 3—Seat index point

### 1 SCOPE

This International Standard specifies a method and a device for use in establishing the position of the seat index point for any kind of padded seat.

### 2 FIELD OF APPLICATION

This International Standard is applicable to seats designed for operators of earth-moving machinery, and tractors and machinery for agriculture and forestry.

The seat index point (SIP) as established and defined by this International Standard can be considered, for operator work place design purposes, to be equivalent to the intersection on the vertical plane through the seat centreline of the theoretical pivot axis between a human torso and thighs when determined in accordance with the annex, this intersection being referred to as the H-point.

**NOTE**—It has been found that the difference between the SIP and the above-mentioned torso/thighs intersection (H-point) is no greater than  $\pm 10$  mm measured along the  $x'$  and  $z'$  axes (see annex).

The SIP can be determined on a seat by itself or located in its operating environment on the machine. It can therefore be specified directly by the seat manufacturer.

### 3 DEFINITION

**seat index point (SIP):** The point in the central vertical longitudinal plane of the SIP device shown in figure 1 when installed in the operator seat as specified in clauses 5 and 7.

The SIP is fixed with respect to the machine and does not move with the seat through its range of adjustment and/or oscillation.

### 4 DEVICE FOR DETERMINATION OF SEAT INDEX POINT

The device for determining the SIP shall comply with figure 1. The mass of the device shall be  $6 \pm 1$  kg. The bottom surface of the device shall be smooth and polished.

### 5 ADJUSTMENT OF THE SEAT WHEN DETERMINING THE SEAT INDEX POINT

Where the relevant adjustments are a part of the seat and its suspension, the seat shall be adjusted as follows before determining the seat index point:

- a) All fore, aft, vertical, and angular adjustments shall be placed in their centre position. When no centre position is possible, the nearest adjustment above or rearward of centre shall be used.
- b) Adjustable suspension systems shall be set so that the suspension system is at the mid-point of its oscillation range with the weighted device in place. The suspension may be mechanically blocked in this position while determining the seat index point.
- c) Non-adjustable suspensions shall be blocked in the vertical position attained with the weighted device in place.
- d) If the above adjustments are in conflict with the manufacturer's clearly stated instructions, then the manufacturer's instructions shall be followed to obtain the recommended adjustment for a 75 kg operator.

**NOTE** — A 75 kg operator approximates to the 65 kg weighted device on the seat

- e) If a measurement at another position of adjustment is specifically required by virtue of a standard or regulation, this shall be carried out in addition to the measurements made under the conditions stipulated above.