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स्वचल वाहन — दुपहिये वाहनों के पीछे  
की सीट के लिए हैण्ड-होल्ड — अपेक्षाएँ  
(पहला पुनरीक्षण)

**Automotive Vehicles — Pillion  
Hand-Holds for Two-Wheeled Motor  
Vehicles — Requirements**  
( *First Revision* )

ICS 43.140

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## FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Body, Chassis and Accessories Sectional Committee had been approved by Transport Engineering Division Council.

This standard was first published in 1998 which specifies strength requirements for pillion hand-holds for two wheeled motor vehicles. This revision has been undertaken to in view of latest technological advancement which have taken place after the publication of the standard. In this revision editorial corrections have been rectified and references have been made up to date. The following modification has been done in this revision.

- a) Vehicle category L1 and L2 mentioned in the scope;
- b) Inclusion for the exemption for SPVs;
- c) Inclusion of the reference standards that is, IS 14272 : 2011 and AIS 166;
- d) Inclusion of the definition for 'Type of vehicle with regard to pillion handholds; and
- e) Incorporation of the optional requirement for the maximum pressure specification of 2 MPa.

This standard has been prepared with the view to ensure the safety of the pillion rider on two-wheeled motor vehicles.

The testing criteria have also been outlined for guidance of testing authorities, designers and statutory agencies involved in the implementation of these standards.

In the preparation of this standard considerable assistance has been derived from regulation (EU) 44/2014 amended by 1824/2016 'Passenger hand-holds on two wheeled motor vehicles'.

The composition of the Committee responsible for the formulation of this standard is given in [Annex C](#).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***AUTOMOTIVE VEHICLES — PILLION HAND-HOLDS FOR  
TWO-WHEELED MOTOR VEHICLES — REQUIREMENTS***( First Revision )***1 SCOPE**

**1.1** This standard specifies strength requirements for pillion hand holds for two-wheeled motor vehicles of category L1 and L2 as defined in IS 14272.

**1.2** This standard does not apply to:

- a) Two-wheeled — Motor vehicles on which there is no provision for pillion seat; and
- b) Special purpose vehicles (SPV) — as defined in CMVR Rule 2, as amended from time to time.

**2 REFERENCES**

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

<i>IS No./Other Standards</i>	<i>Title</i>
IS 14272 : 2011	Automotive vehicles — Types — Terminology ( <i>first revision</i> )
AIS 166	Automotive vehicles — Protective devices for two wheeled motor vehicles — Requirements

**3 TERMINOLOGY**

**3.1 Type of Vehicle with Regard to Pillion Handholds** — Type of vehicles which do not differ in such essential respects as shape, size, material and mounting characteristics of the pillion hand holds of the vehicle.

**4 REQUIREMENTS**

For vehicles designed to carry rider and pillion, the vehicle shall be fitted with a pillion hand holds system consisting of either a strap or one or two hand-grip(s).

Handholds system shall be fitted close to the relevant seating position in such a way that they can be easily used by the pillion in normal seating position, irrespective of seating side or cross-saddled.

Provided that in case of side saddle seating, the requirement of ease of access of pillion handhold shall not be applicable to the vehicles as exempted under **1.2** of AIS 166.

**4.1 Strap**

Hand holds straps shall be symmetrical with respect to the longitudinal median plane of the seating position.

The strap and its attachments shall be able to withstand, without snapping, a vertical traction force of 2 000 N (200 kg) applied statically to the centre of its surface at a maximum pressure of 2 MPa.

**4.2 Hand-Grip(s)**

**4.2.1** Single hand-grip shall be symmetrical with respect to the longitudinal median plane of the seating position.

The hand-grip(s) and its attachments shall be able to withstand, without snapping, a vertical traction force of 2 000 N (200 kg) applied statically to the centre of its surface at a maximum pressure of 2 MPa.

**4.2.2** Two hand-grips shall be symmetrical with respect to each other and the longitudinal median plane of the seating position. They shall each be able to withstand simultaneously, without snapping, a vertical traction force of 1 000 N (100 kg) applied statically to the centre of their surface at a maximum pressure of 1 MPa.

**4.3** Design features of the vehicle, which could be confused with the designated passenger hand holds system shall not be permitted, unless they also meet the requirements of [4.1](#) to [4.2](#) as applicable.

**4.4** The maximum pressure mentioned in [4.1](#) and [4.2](#) may be exceeded during testing upon agreement with the vehicle manufacturer and can be suitably recorded in the test report.

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**4.5** Alternatively, at the request of manufacturer, the pillion hand hold system consisting of either a strap or one or two hand-grip(s) may be tested on a fixture simulating vehicle installation condition, while applying the load specified in [4.1](#), [4.2.1](#) and [4.2.2](#) as applicable.

Vehicle manufacturer shall declare that the fixture simulating vehicle installation condition is similar to complete vehicle.

## 5 APPROVAL OF VEHICLE

**5.1** If the vehicle type submitted for approval meets the requirements of [4](#) of this standard; approval of that vehicle type shall be granted.

**5.2** The application for type approval of a vehicle with regard to pillion hands hold system, shall be submitted by the vehicle manufacturer along with the details given in [Annex A](#).

NOTE — If the above details are covered in application for complete vehicle type approval, it is not necessary to submit them separately.

### 5.3 Modification and Extension of the Approval of the Vehicle

**5.3.1** Every modification in technical specifications affecting type approval declared in accordance with [5.1](#) and [5.2](#), shall be intimated to the testing agency. Testing agency may then consider, whether;

**5.3.1.1** The pillion hand hold system with modifications complies with specified requirements, or;

**5.3.1.2** Any further verification is required.

**5.3.2** For considering whether testing is required or not, guidelines given in [Annex B](#) shall be followed.

## 6 TRANSITIONAL PROVISIONS

**6.1** At the request of the applicant, type approvals for compliance to first revision of IS 14495, shall be granted by test agencies. Such type approvals shall be deemed to be compliant to IS 14495 : 1998.

**6.2** In case of already type approved vehicles with no changes in the pillion hand hold system the approvals issued as per IS 14495 : 1998 shall be extended to first revision of IS 14495, without further testing.

**6.3** Extension of approvals for engineering and administrative changes.

**6.3.1** In the case of [6.1](#), extensions shall be granted subject to the conditions of first revision of IS 14495. Such extensions shall be deemed to be compliant to IS 14495 : 1998.

**6.3.2** Extensions to approvals as per IS 14495 : 1998 shall be granted till the date of implementation of first revision of IS 14495.

## 7 MARKING

### 7.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

**ANNEX A***(Clause 5.2)***INFORMATION TO BE DECLARED BY MANUFACTURER FOR APPROVAL OF HAND HOLDS****A-1 GENERAL****A-1.1** Make of the handhold.**A-1.2** Make and model of the vehicle.**A-1.3** Details of the variants.**A-1.4** Vehicle category as per IS 14272.**A-1.5** Name and address of applicant.**A-1.6** Contact details of the applicant.**A-2 PILLION HAND HOLDS SYSTEM CONFIGURATION — STRAP AND/OR HAND-GRIP(S)**

No. of pillion hand holds provided.

**A-3 DRAWINGS SHOWING THE LOCATION AND THE DETAILS OF THE HAND HOLD(S)**

- a) Minimum sectional dimensions of the strap or handgrip(s);
- b) Size and number of fasteners used in attachments; and
- c) Material of the strap or handgrip(s).

**A-4 FIXTURE MATERIAL (IF APPLICABLE)****ANNEX B***(Clause 5.3.2)***CRITERIA OF EXTENSION OF APPROVALS**

**B-1** This annex gives the factors to be considered while selecting a pillion rider hand-holds system to represent a range of variants for type approval as per this standard and the extension of type approval certificate on one model to its variants.

**B-1.1** In general, when changes in the technical specification of the pillion rider hand-holds do not affect the requirements given in this standard adversely and is still within the stipulated limits, the type approval certificate shall be extended.

**B-1.2** The type approval testing shall be performed on a model/variant only in the case of following changes:

- a) Reduction in sectional dimensions of the strap or handgrip(s);

- b) Reduction in size and number of fasteners used for mounting;
- c) Change in location and position of the hand holds system. (test is required only for the added or re-positioned grip/strap.); and
- d) Design of handholds system (based on the mutual agreement of the test agency and the vehicle manufacturer)

**B-1.3** In all other cases except the changes specified in [B-1.2](#), the testing need not to be carried out.

The test agency shall extend the type approval, without any test.

## ANNEX C

*(Foreword)*

## COMMITTEE COMPOSITION

Automotive Body, Chassis and Accessories Sectional Committee, TED 06

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Automotive Research Association of India, Pune	SHRI SREENIVASULU ( <b><i>Chairperson</i></b> )
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