

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

**JIS D 9313-4** : 2019

(JBPI/JSA)

**Cycles—Part 4: Body unit test  
methods**

---

ICS 43.150

Reference number : **JIS D 9313-4 : 2019 (E)**

D 9313-4 : 2019

Date of Establishment: 2019-02-20

Date of Public Notice in Official Gazette: 2019-02-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Consumer Life Products

---

JIS D 9313-4:2019, First English edition published in 2019-09

Translated and published by: Japanese Standards Association  
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

---

In the event of any doubts arising as to the contents,  
the original JIS is to be the final authority.

© JSA 2019

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HT/AT

PROTECTED BY COPYRIGHT

## Contents

|   | Page |
|---|------|
| Introduction .....  | 1    |
| 1 Scope .....   | 1    |
| 2 Normative references .....  | 1    |
| 3 Terms and definitions .....   | 2    |
| 4 Frame test methods .....  | 2    |
| 4.1 Frame — Impact test (falling mass) .....  | 2    |
| 4.2 Frame and front fork — Impact test (falling frame) .....  | 3    |
| 4.3 Frame — Fatigue test with pedalling forces .....  | 7    |
| 4.4 Frame — Fatigue test with horizontal forces .....   | 10   |
| 4.5 Frame — Fatigue test with a vertical force .....  | 11   |
| 5 Fork test methods .....   | 13   |
| 5.1 Suspension forks — Tyre-clearance test .....  | 13   |
| 5.2 Suspension forks — Tensile test .....   | 14   |
| 5.3 Front fork — Static bending test .....  | 14   |
| 5.4 Front fork — Rearward impact test .....   | 15   |
| 5.5 Front fork — Bending fatigue test and rearward impact test .....                                  | 17   |
| 5.6 Forks intended for use with hub or disc brakes .....  | 18   |
| 5.7 Tensile test for a non-welded fork .....  | 20   |
| Annex A (normative) Dummy fork characteristics .....  | 21   |
| Annex B (normative) Fork mounting fixture .....   | 22   |
| Annex C (informative) Suspension frames — Tyre-clearance test .....                                   | 23   |
| Annex JA (informative) Comparison table between JIS and corresponding<br>International Standard ..... | 24   |

## Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Bicycle Promotion Institute (JBPI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

**JIS D 9313** series consists of the following 7 parts under the general title *Cycles*:

*Part 1: General rule for test method and parts test methods*

*Part 2: Braking device test methods*

*Part 3: Steering device test methods*

*Part 4: Body unit test methods*

*Part 5: Running device test methods*

*Part 6: Driving device test methods*

*Part 7: Seating device test methods*

# Cycles—Part 4: Body unit test methods

## Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4210-6:2015**, Edition 2, with some changes made in the technical contents to reflect the needs and conditions specific to Japan and to ensure safety of the products.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

## 1 Scope

This Standard specifies test methods for body unit of bicycles for general use and bicycles for exclusive sports usage as defined in **JIS D 9111**.

**NOTE** The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4210-6:2015 *Cycles—Safety requirements for bicycles—Part 6: Frame and fork test methods* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standards and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS D 9111 *Cycles—Classification, terminology and essential characteristics*

**NOTE** Corresponding International Standard: ISO 4210-1:2014 *Cycles—Safety requirements for bicycles—Part 1: Terms and definitions* (MOD)

JIS D 9301 *Bicycles for general use*

**NOTE** Corresponding International Standard: ISO 4210-2:2015 *Cycles—Safety requirements for bicycles—Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles* (MOD)

JIS D 9304 *Bicycles for exclusive sports usage*

**NOTE** Corresponding International Standard: ISO 4210-2:2015 *Cycles—Safety requirements for bicycles—Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles* (MOD)

JIS D 9313-1 *Cycles—Part 1: General rule for test method and parts test methods*

**NOTE** Corresponding International Standard: ISO 4210-3:2014 *Cycles—Safety requirements for bicycles—Part 3: Common test methods* (MOD)