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**Road vehicles — Test of braking systems  
on vehicles with a maximum authorized  
total mass of over 3,5 t using a roller  
brake tester —**

Part 2:

**Air over hydraulic and purely hydraulic  
braking systems**

*Véhicules routiers — Essai des systèmes de freinage des véhicules  
ayant une masse totale maximale autorisée supérieure à 3,5 t effectué  
sur banc d'essai de freinage à rouleaux —*

*Partie 2: Systèmes de freinage hydropneumatique et purement  
hydraulique*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21069-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

ISO 21069 consists of the following parts, under the general title *Road vehicles — Test of braking systems on vehicles with a maximum authorized total mass of over 3,5 t using a roller brake tester*.

- *Part 1: Pneumatic braking systems*
- *Part 2: Air over hydraulic and purely hydraulic braking systems*

## Introduction

At present, UNECE Regulation No. 13 covers only some aspects of the periodic technical inspection of vehicles in use.

In order to fulfil the requirements of UNECE Regulation No. 13, paragraph 5.1.4, this part of ISO 21069 is designed to cover the periodic measurement of braking performance of vehicles in service.

This part of ISO 21069 specifies the test method whereby a roller brake tester is used to measure, evaluate and record the braking efficiency of road vehicles of categories M2, M3, N2, N3, O3 and O4 [as defined in UNECE Consolidated Resolution on the Construction of Vehicles (R.E.3.)] which are equipped with full power air over hydraulic or purely hydraulic braking systems. This part of ISO 21069 is also applicable for electronic braking systems (EBS).

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# Road vehicles — Test of braking systems on vehicles with a maximum authorized total mass of over 3,5 t using a roller brake tester —

## Part 2: Air over hydraulic and purely hydraulic braking systems

### 1 Scope

This part of ISO 21069 describes a procedure that generates comparable measurement results in roller brake testing, such that the efficiency of the service braking system can be assessed reliably wherever the roller brake tests are performed.

The following items are covered in this part of ISO 21069:

- symbols and definitions;
- test methods;
- test conditions;
- test equipment required;
- accuracy of test equipment;
- data recording and calculation needed;
- presentation of results;
- assessment criteria for pass/fail.

The procedure described in this part of ISO 21069 is not applicable to passenger cars.

### 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 2.1

##### **braking force**

force between the tyre and the rotating roller, produced at the circumference of the tyre during braking, which opposes the force generated at that interface by the roller brake tester in order to cause a rotation of the wheel

#### 2.2

##### **braking force imbalance**

difference in the braking forces, measured with running wheels, between brakes on an axle

NOTE Braking force imbalance is expressed as a percentage of the higher force.