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**Road vehicles — Aerosol separator  
performance test for internal  
combustion engines —**

**Part 1:  
General**

*Véhicules routiers — Essai de performance du séparateur d'aérosols  
pour les moteurs à combustion interne —*

*Partie 1: Généralités*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 34, *Propulsion, powertrain and powertrain fluids*.

ISO 17536 consists of the following parts, under the general title *Road vehicles — Aerosol separator performance test for internal combustion engines*:

- *Part 1: General*
- *Part 3: Method to perform engine gravimetric test* [Technical Specification]

The following parts are under preparation:

- *Part 2: Laboratory gravimetric test method* [Technical Specification]
- *Part 4: Laboratory fractional test method*
- *Part 5: Method to perform engine fractional test* [Technical Specification]

## Introduction

Engine crankcase blowby is composed of combustion exhaust gases which have escaped to the crankcase via piston ring seals and lube oil aerosols generated by thermal and mechanical action within the engine. These gases need to be vented from the crankcase to prevent a build-up of high pressure. The constituents of vented engine blowby gases are recognized as an undesirable contaminant and technology for their containment is therefore evolving.

The device used to separate oil aerosols from the blowby typically releases cleaned gases to atmosphere or alternatively returns the cleaned product to the combustion process by feeding into the engine air intake prior to the turbo compressor (if present). The latter has led to the requirement for a pressure control device to isolate the engine crankcase from air intake pressure.

The engine test methods presented in ISO 17536 are general guidelines for performing an engine test.

Annexes A to I specify general and common provisions for aerosol separator performance test.



# Road vehicles — Aerosol separator performance test for internal combustion engines —

## Part 1: General

### 1 Scope

This part of ISO 17536 specifies general conditions, defines terms and establishes the basic principles for blowby oil aerosol separator performance tests by laboratory or engine and gravimetric or fractional test method.

### 2 Terms, definitions, symbols and units

#### 2.1 Terms and definitions

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

##### 2.1.1

##### **blowby**

aerosol produced from engines and released through a crankcase vent

##### 2.1.2

##### **oil carryover**

total amount of liquid oil captured in the downstream wall flow trap

##### 2.1.3

##### **filter element**

replaceable part of the crankcase system, consisting of the filter material and carrying frame

##### 2.1.4

##### **crankcase ventilation system**

device which separates oil and particles from the engine blowby before venting to either the engine (closed crankcase ventilation, CCV) or the environment (open crankcase ventilation, OCV)

##### 2.1.5

##### **differential pressure**

difference in static pressure measured immediately upstream and downstream of the unit under test

##### 2.1.6

##### **pressure loss**

measure of the loss of aerodynamic energy caused by an aerosol separator at the observed air flow rate due to different flow velocities at the measuring point:

Note 1 to entry: It is expressed as the differential pressure corrected for any difference in the dynamic head at the measuring points

Note 2 to entry: For further information, see Annex A.

##### 2.1.7

##### **wall flow trap**

device to capture oil that is flowing along the walls

Note 1 to entry: The wall flow trap design is drawn in [Figure I.2](#).