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Road vehicles — Analysis of technical changes of ISO 5011:2020

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National foreword

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Foreword

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 34, *Propulsion, powertrain and powertrain fluids*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document describes the major changes made to ISO 5011:2014 with the ISO 5011:2020 revision.

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TECHNICAL REPORT **ISO/TR 6409:2023**

Road vehicles — Analysis of technical changes of ISO 5011:2020

1 Scope

This document analyses the impact of changes to ISO 5011:2020 as regards to the following:

— precleaner efficiency;

— elimination of two secondary element tests (collapse and blocking);

— revisions to the recommended ISO dust injector (Table 1);

— validation of the absolute filter weighing method; and

— inclusion of Annex H, "Penetration sensitivity".

These changes refine the precleaner efficiency calculation, eliminate seldom used tests, which were lengthy or costly, further clarify dust injector use, the validation of the absolute material, and the precision of the efficiency measurement.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5011:2020, *Inlet air cleaning equipment for internal combustion engines and compressors — Performance testing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5011:2020 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Precleaner efficiency calculation

Background:

In ISO 5011:2014 it was possible, using just the gain on the primary, secondary, and absolute filters alone, to calculate the precleaner efficiency. This approach was logical, in so far as the measure of the precleaner efficiency was defined by that which actually loaded on the primary, regardless of whether it was removed entirely from the system.

This can occur:

— due to the casual removal of the elements (causing dust to fall off in the air cleaner and lowering the primary gain);

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