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BUREAU OF INDIAN STANDARDS

AGENDA

Name of the Committee	No of meeting	Date and Time	Day	Venue
Automotive Prime Movers, Transmission Systems and Internal Combustion Engine Sectional Committee, TED 2	20th Meeting	26th June 2023 10:30 AM onwards	Monday	VIRTUAL (WEBEX) **URL:** https://bismanak.webex.com/bismanak/j.php?MTID=m4a962ad157e3e4497b2f606ad9cdd966 **Meeting ID:** 2513 447 8755 **Password:** 2HSmfkUsQ38

CHAIRMAN: Shri N.V. MARATHE **MEMBER SECRETARY:** Shri Gaurav Jayaswal

HEAD (TED): Shri P V Srikanth

ITEM 0 GENERAL

0.1 Welcome by Head (TED)

0.2 Opening remarks by the Chairman

ITEM 1 CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The Minutes of 19th Meeting of 'Automotive Prime-movers, Transmission Systems and Internal Combustion Engine Sectional Committee, TED-2', held through WEBEX were circulated via email and BIS Portal. No comments on the recording of the Minutes have been received and hence the committee may formally confirm the minutes of the meeting.

ITEM 2 SCOPE AND COMPOSITION OF THE SECTIONAL COMMITTEE

2.0 Scope of Sectional Committee TED 02 is as follows:

a) Standardization relating to automotive engines and transmission, components, stationary internal combustion engines for agriculture.
b) Co-ordination of work with ISO/ TC 22, ISO/ TC 22/ SC 34, ISO/ TC 70, ISO/ TC 70/ SC 7 and ISO/ TC 70/ SC 8

The Committee may please note.

2.1 As a matter of policy the sectional committee composition is to be reviewed regularly. The policy guidelines are:

a) Efforts shall be made to keep the strength of committee optimum;

b) Withdraw the nomination of the organizations who are continuing for long periods but are neither attending the committee meetings for the last three or more years norcontributing through correspondence/ mail;

c) Co-opt the new members and organizations whose inclusion will be helpful in the committee's work or which are capable of contributing in emerging new technologies andnew areas of work;

d) Strength of the manufacturers should be restricted to 1/3rd of the total strength of the technical committee; and

e) NGOs where ever possible should also be co-opted.

The committee may please note.

2.2 The following directions have been received from the Competent Authority of the Bureau forreviewing the composition of the Sectional Committee:

f) Major Government purchasing organizations are to be given representation in the committees wherever applicable.

g) The continuation of committee membership, including those represented in individual capacity, is to be considered on the basis of past attendance and contribution.

h) In case representative of the concerned organization is not attending the meeting regularlyor not contributing even by correspondence, the organization may be requested tosubstitute their member.

i) Efforts should be made to include representative of different product segments as per the scope of the committee.

j) Increased involvement of premier institutions like IIT, CSIR labs, IISc and other R & D organizations to be worked out.

k) Efforts should be made to include young professionals and scientist in the Committee.

The committee may please note.

2.3 Based on above guidelines the committee may review the present composition of the Committee given in Annex 1. The list shows the status of committee members as manufacturer, consumer, R&D etc and also attendance of the members in the last three consecutivemeetings. The committee may deliberate and decide on further continuation/ deletion of organizationsfrom the committee composition and co-option of new organizations in the committee composition

2.4 The Committee may suggest means for identification and involvement of talent available in the country related to the subject dealt by the committee and methodology to involve them in the proceedings of the Committee. The Committee may also suggest means and ways to enhance the participation of the members in Committee work through participation in the meeting or sending comments on the documents.

2.5 New Nomination request has been received from Mr. KUMARAGURUBARAN S B through BIS Portal. CV of the applicant is attached at Annexure – 12.The committee may deliberate and decide.

ITEM 3 PROCESS REFORMS AT BIS

3.1 Member Secretary's presentation on process reforms in BIS's standardization activities incorporating following :

3.1.1 *Insights into Initiatives for Standardization*

- Overview of BIS's initiatives for identifying new areas for standardization.
- Introduction of the Standard National Action Plan 2022-2027.
- Collaboration with central ministries, departments, and state governments for input on potential areas.

3.1.2 *Establishment of Standardization Cells and Collaboration*

- Vision of establishing standardization cells in industry associations.
- Interaction with academia and subscription to relevant publications.

3.1.3 *Leveraging Initiatives for Comprehensive Information*

- Gathering comprehensive information from various sources for identifying new areas.

3.1.4 *Effective Stakeholder Management*

- Emphasis on stakeholder engagement, collaboration, and harmonious development of standards.

3.1.5 *Effective Committee Management Strategy*

- Importance of diverse committee composition and regular attendance for efficient decision-making.
- Adoption of Action Research Project approach for reviewing Pre-2000 standards.

3.1.6 *Standards Promotion and Awareness Campaigns*

- Introduction of awareness campaigns such as the new standards club and training programs.
- Appreciation for initiatives like Manak Manthan and Manak Manch.

ITEM 4 ACTIONS ARISING OUT OF THE PREVIOUS MEETING(S)

A brief summary of actions arising out of minutes of last meeting(s) is given below in Table 1.

Table – 1

Sr. No.	Subject	Decision in Previous Meeting(s)	Present status
1.	**Second revision of IS/ ISO 6621-2** Doc no **TED 2 (17755)** Internal combustion engines - Piston rings - Part 2 Inspection measuring principles (*Identical adoption of ISO 6621 - 2:2020*)	**Status in 18th Meeting:** ISO 6621-2:2003 has been revised to ISO 6621-2:2020. Doc no. TED 2 (17755) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send comments was 14th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:** The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted.	The standard has been published. The committee may please note.
2.	**First Revision of IS/ ISO 8178-1** Doc no **TED 2 (17757)** Reciprocating internal combustion engines – Exhaust emission measurement– Part 1: Test bed measurement systems of gaseous and particulate emissions	**Status in 18th Meeting:** ISO 8178-1:2017 has been revised to ISO 8178-1:2020. Doc no. TED 2 (17757) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send	The standard has been published. The committee may please note.

	(*Identical adoption of ISO 8178-1:2020*)	comments was 14th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:** The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted.	
3.	**First Revision of IS/ ISO 8178-4** Doc no **TED 2 (17758)** Reciprocating Internal Combustion Engines -Exhaust emission measurement - Part 4: Steady state test cycles for different engine applications (*Identical adoption of ISO 8178-4:2021*)	**Status in 18th Meeting:** ISO 8178-4:2017 has been revised to ISO 8178-4:2021. Doc no. TED 2 (17758) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send comments was 14th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:**	The standard has been published. The committee may please note.

		The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted.	
4.	**First Revision of IS/ ISO 8528-3** Doc no **TED 2 (17759)** Reciprocating internal combustion engine driven alternating current generating sets - Part 3 Alternating current generators for generating sets. (*Identical adoption of ISO 8528-3:2020*)	**Status in 18th Meeting:** ISO 8528-3:2005 has been revised to 8528-2:2020. Doc no. TED 2 (17759) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send comments was 14th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:** The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted.	The standard has been published. The committee may please note.

5.	1. **Draft amendment no. 3 to IS 10002:1981** 'Specification for performance requirements for constant speed compression ignition (diesel) engines for general purposes (above 19 kW) 2. Doc no. TED 2 (17821)	**Status in 18th Meeting:** Doc no. TED 2 (17821) was circulated as wide circulation draft vide mail dated 08 11 2021. Last date to send comments was 05 12 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the amendment for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:** The document has been sent for Printing. The committee may please note. **Decision in 19th Meeting:** The committee noted.	The Amendment has been published. The committee may please note.
6.	**Third revision of IS 11509 (Part 5)** {Doc no **TED 2 (17750)}** **'**Method of test for full-flow lubricating oil filters for internal combustion engines - Part 5 **Test for cold start simulation and hydraulic pulse durability**' (*Identical adoption of ISO 4548-5:2020*)	**Status in 18th Meeting:** ISO 4548-5:2013 has been revised to ISO 4548-5:2020. Doc no. TED 2 (17750) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send comments was 13th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised	The stage shown at BIS Portal is "Ready for Gazette" . The committee may please note.

		member secretary to process the document for printing on priority. **Status in 19th Meeting:** The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted.	
7.	**Draft Amendment no 4 to IS 7347** 'Specification for performance of small size Spark ignition engines for agricultural water Pumps sprayers, tillers, reapers and other similar applications' Doc no TED 2 (16665) P	**Status in 18th Meeting:** Doc no TED 2 (16665) was circulated as wide circulation draft vide mail dated 05 11 2021. Last date to send comments was 05 12 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the amendment for printing. **Status in 19th Meeting:** The document is being prepared as per IS 12 for sending it for printing.The committee may please note. **Decision in 19th Meeting:** The committee discussed the document in the meeting and decided to incorporate some editorial changes. The final copy of the draft amendment which the committee decided	The document has been sent for printing.

		to send for printing had been attached as Annexure – 1 of the minutes of 19th Meeting.	
8.	**Revision of IS 17458 : 2018** {Adoption of ISO 6826 : 2022}	In 19th Meeting of SC TED 02 it was decided to revise IS 17458 : 2018 to align it with latest version of ISO 6826.	National foreword for adoption of ISO 6826 : 2022 has been sent for WC as TED 02 (22709)W.
9.	**Revision of IS 14599:1999** 'Automotive vehicles - Performance requirements (Measurement Of Power, SFC, Opacity) of positive and compression ignition engines - Method of test'	Doc no TED 2 (16879) P circulated as preliminary draft vide mail dated 26 01 2021 for comments among committee members. **Status in 18th Meeting:** Wide circulation draft is under preparation as per BIS drafting guidelines. **Decision in 18th Meeting:** The committee noted the information. The committee advised member secretary to wide circulate the draft document for comments for60 days at the earliest. **Status in 19th Meeting:** Wide circulation draft was prepared and circulated dt. 21/03/2022 for 60 days through BIS Portal. No Comments have been received in this regard on BIS Portal. The committee may deliberate and decide.	The Document has been uploaded on BIS Portal and will be circulated after HoD approval. The committee may please note.

		Decision in 19th Meeting: The committee decided to send the document again for 30 days on request of members for comments.	

ITEM 5 REVIEW OF PUBLISHED INDIAN STANDARDS

5.1 As per the statutory requirement of the Bureau, every standard should be reviewed by the Sectional Committee responsible not more than five years after publication, reaffirmation or revision to establish whether it is still current. Circumstances may lead to any earlier review, too.

When reviewing a standard, a committee has five options available:

a) ***reaffirmation*** indicating continuing current of the standard without change;
b) ***amendment and reaffirmation*** indicating the continuing currently of standard after necessary changes to bring it up to date;
c) ***revision*** involving the routine procedure for new project and reaffirm for time being;
d) ***declaration of obsolescence*** indicating by amendment that the standard is not recommended for use in new equipment but needs to be retained to provide for the servicing of existing equipment that is expected to have a long working life;
e) ***Withdrawal*** indicating that the standard is no longer needed.

5.2 As on-going activity, as indicated at **5.1** above, Sectional Committee reviews the Indian Standards formulated by it at an interval of five years from the date of publication/last review. As per the information available on BIS Portal, Following standard are falling due for review during 2023-24:

Sr. No.	IS Number	IS Title	Status
1.	IS 3175 : 2013	Internal combustion engine - Sealing washers for pipe unions - Specification (*Second Revision*)	The committee may discuss.
2.	IS 16057 : 2013	LPG operated internal combustion engines - Safety and performance requirements - Specification	The committee may discuss.
3.	IS/ISO 8528-1 : 2018	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 1 Application, Ratings and Performance (First Revision)	This standard is identical adoption of ISO 8528-1: 2018 which has not been revised ever since its publication. Hence the committee may reaffirm the standard.
4.	IS/ISO 8528-5 : 2018	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 5 Generating Sets (First Revision)	This standard is identical adoption of ISO 8528-5: 2018. ISO 8528 has been revised in 2022 by ISO. Hence the committee may decide to revise the document to

			align it with latest version of ISO 8528-5.
5.	IS/ISO 8528-8 : 2016	Reciprocating internal combustion engine driven alternating current generating sets: Part 8 requirements and tests for low - Power generating sets (First Revision)	This standard is identical adoption of ISO 8528-8: 2016 which has not been revised ever since its publication. Hence the committee may reaffirm the standard.
6.	IS 10000 (Part 13) : 2002	Methods of tests for internal combustion engines: Part 13 recommendations on nature of tests required for functional changes in critical components	The committee may discuss.
7.	IS 10323 : 2019	Crank and chain wheel for moped - Specification (First Revision)	The committee may discuss.
8.	IS 10478 : 2018 ISO 6519:2015	Diesel engines - Fuel injection pumps - Tapers for shaft ends and hubs (Second Revision)	This standard is identical adoption of ISO 6519: 2015 which has not been revised ever since its publication. Hence the committee may reaffirm the standard.
9.	IS 10651 : 2019	Hub axle, front for moped - Specification (First Revision)	The committee may discuss.
10.	IS 10652 : 2019	Pedal assembly for moped - Specification (First Revision)	The committee may discuss.
11.	IS 10653 : 2019	Hub axle, rear, for moped - Specification (First Revision)	The committee may discuss.
12.	IS 11139 : 2019	Adjusters for control cables for moped - Specification (First Revision)	The committee may discuss.
13.	IS 13090 : 2018	Automotive vehicles - Commercial vehicles - Clutch housings - Dimensions (First Revision)	The committee may discuss.
14.	IS 13686 : 1993	Internal combustion engines Radiators - Methods of test	The committee may discuss.
15.	IS 13687 : 1993	Internal combustion engines - Radiators - Heat dissipation performance - Method of test	The committee may discuss.
16.	IS 13824 : 1993	Internal combustion engines - Method of verification of emission of crankcase gases for vehicles powered with four stroke spark ignition engines	The committee may discuss.
17.	IS 14273 : 1999	Automotive vehicles - Exhaust emissions - Gaseous pollutants from vehicles fitted with compression ignition engines - Method of measurement	The committee may discuss.
18.	IS 14553 : 2008	Automotive vehicles - Apparatus for the measurement of opacity (Smoke) of exhaust gas from vehicles equipped with compression ignition engines - Specification (First Revision)	The committee may discuss.

19.	IS 1543 : 1964	Specification for single cylinder fuel injection pumps (Revised)	P- draft has been circulated as TED 02 (20894) P for revision of this standard.
20.	IS 3174 : 1974	Specification for pipe union bolt (First Revision)	P- draft has been circulated as TED 02 (20895) P for revision of this standard.
21.	IS 3649 : 2018	Automotive vehicles - Clutch facing for automotive transmission - Specification (First Revision)	The committee may discuss.
22.	IS 7611 : 1993	Internal combustion engines radiators - Specification (First Revision)	The committee may discuss.
23.	IS 8118 : 2008	Automotive vehicles - Opacity (Smoke) of exhuast gas from vehicles equipped with compression ignition engines operating under free acceleration - Method of measurement (Third Revision)	The committee may discuss.
24.	IS/ISO 6621-1 : 2018	Internal Combustion Engines — Piston Rings Part 1 Vocabulary (First Revision)	This standard is identical adoption of ISO 6621-1: 2018 which has not been revised ever since its publication. Hence the committee may reaffirm the standard.
25.	IS 17458 : 2018 ISO 6826:1997	Reciprocating internal combustion engine - Fire protection	National foreword for adoption of ISO 6826 : 2022 has been sent for WC as TED 02 (22709)W.
26.	IS 17019 : 2018	Gear / gerotor oil pump for motorcycle / scooter / moped - Specification	The committee may discuss.
27.	IS 11509 (Part 5) : 2018 ISO 4548-5:2013	Methods of test for full flow lubricating oil filters for internal combustion engines: Part 5 test for cold start simulation and hydraulic pulse durability (Second Revision)	Revision is under process {TED 2 (17750)}
28.	IS 17042 (Part 5) : 2018 ISO 22241-5	Diesel engines - NOx reduction agent aus 32: Part 5 refilling interface for passenger cars	This standard is identical adoption of ISO 22241. ISO 22241-5:2019 is the latest version of ISO Standard and hence IS 17042 (Part 5) may be revised to align it with Latest ISO Standard.
29.	IS/ISO 8178-9 : 2019	Reciprocating internal combustion engines - Exhaust emission measurement - Part 9: Test cycles and test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using an opacimeter	This standard is identical adoption of ISO 8178-9: 2019 which has not been revised ever since its publication. Hence the committee may reaffirm the standard.
30.	IS/ISO 8178-3 : 2019	Reciprocating internal combustion engines - Exhaust	This standard is identical adoption of ISO 8178-3: 2019 which has not

		emission measurement - Part 3: Test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using a filter type smoke meter	been revised ever since its publication. Hence the committee may reaffirm the standard.

5.3 Along from the documents mentioned in the **5.2**, The department has also taken up Review/Revision process of all the pre 2000 standards. In this series, following standards have been taken up by department for review/revision purposes:

Sr No.	IS Number	Year of Publication	Title	Status
1.	IS 12025	1987	Recommendations for measurement of quality characteristics for pistons	Review Draft has been circulated. P Draft Sent as TED 02 (20797) P. No comments have been received on the P draft. However some observations have been received from M/s Shriram Pistons and M/s Tenneco via email through ACMA on IS 12025 and the same have been attached at Annexure-2. The committee may deliberate and decide.
2.	IS 1543	1964	Specification for single cylinder fuel injection pumps (Revised)	Document was given to Mr. Hemant singh Negi as ARP Project. Review document received was circulated on BIS Portal and was discussed In the sectional committee meeting. P draft has been circulated as TED 02 (20894) P.

				No comments have been received. The draft may be sent for Wide Circulation.
3.	IS 3174	1974	Specification for pipe union bolt (First Revision)	Review document generated and circulated through BIS Portal. P draft has been circulated as TED 02 (20895) P. No comments have been received. The draft may be sent for Wide Circulation.
4.	IS 7449 : Part 1	1974	Glossary of terms for IC engines: Part 1 fuel injection equipment	Review document generated and circulated through BIS Portal. P draft has been circulated as TED 02 (20896) P. No comments have been received. The draft may be sent for Wide Circulation.
5.	IS 7657 : Part 2	1975	Specification for starter ring gears for internal combustion engines: Part 2 gears for axial and coaxial starters	Review document generated and circulated on 31/08/2022. P draft has been circulated as TED 02 (20898) P. No comments have been received. The draft may be sent for Wide Circulation.
6.	IS 7657 : Part 1	1975	Specification for starter ring gears for internal combustion engines: Part 1 gears for inertia and solenoid pre - Engaged starters	Review document generated and circulated on 31/08/2022. No comments have been received. The draft may be sent for Wide Circulation.

				P draft has been circulated as TED 02 (20900) P.
7.	IS 8422 : Part 8	1977	Specification for piston rings for IC engines: Part 8 narrow land slotted oil control rings from 50 up to 200 mm nominal diameter D - Rings	The standard was allocated as ARP to Mr. Sanjay Kumar, Sc B, Nagpur Branch Office. The ARP Report is Awaited. Meanwhile the document has been circulated as P draft as TED 02 (20909) P incorporating Editorial Correction. The committee may discuss the matter.
8.	IS 8422 : Part 1	1977	Specification for piston rings for IC engines: Part 1 plain compression rings from 30 up to 200 mm nominal diameter R - Rings	The standard was allocated as ARP to Ms. Neha Thakur, Sc B, Raipur BO. The ARP Report has been submitted by Ms. Neha and the same has been circulated to all the committee members through BIS Portal. The report is also attached at Annexure-3 of the agenda. Meanwhile the document for revision of this standard has also been circulated as P draft as TED 02 (20902) P incorporating Editorial Corrections. No comments have been received on P-Draft. The committee may deliberate and decide.

9.	IS 8422 : Part 2	1977	Specification for piston rings for IC engines: Part 2 taper faced compression rings from 30 up to 200 mm nominal diameter M - Rings	The standard was allocated as ARP to Ms. Neha Thakur, Sc B, Raipur BO. The ARP Report has been submitted by Ms. Neha and the same has been circulated to all the committee members through BIS Portal. The report is also attached at Annexure-4 of the agenda. Meanwhile the document for revision of this standard has also been circulated as P draft as TED 02 (20903) P incorporating Editorial Corrections. No comments have been received on P-Draft. The committee may deliberate and decide.
10.	IS 8422 : Part 3	1977	Specification for piston rings for IC engines: Part 3 keystone rings from 82 up to 200 mm nominal diameter T - Rings 15	The standard was allocated as ARP to Ms. Neha Thakur, Sc B, Raipur BO. The ARP Report has been submitted by Ms. Neha and the same has been circulated to all the committee members through BIS Portal. The report is also attached at Annexure-5 of the agenda. Meanwhile the document for revision of this standard has also been circulated as P draft as TED 02

				(20904) P incorporating Editorial Corrections. No comments have been received on P-Draft. The committee may deliberate and decide.
11.	IS 8422 : Part 4	1977	Specification for piston rings for IC engines: Part 4 napier oil scraper rings from 30 up to 200 mm nominal diameter N - Rings	The standard was allocated as ARP to Shri A.P.D. Dwivedi, Sc F & Head (WROL). The ARP Report has been submitted by shri Dwivedi and the same has been circulated to all the committee members through BIS Portal. The report is also attached at Annexure-6 of the agenda. Meanwhile the document for revision of this standard has also been circulated as P draft as TED 02 (20905) P incorporating Editorial Corrections. No comments have been received on P-Draft. The committee may deliberate and decide.
12.	IS 8422 : Part 5	1977	Specification for piston rings for IC engines: Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter Z - Rings	The standard was allocated as ARP to Shri A.P.D. Dwivedi, Sc F & Head (WROL). The ARP Report has been submitted by shri Dwivedi and the same has been circulated to all the committee members through BIS Portal.

				The report is also attached at Annexure-7 of the agenda. Meanwhile the document for revision of this standard has also been circulated as P draft as TED 02 (20906) P incorporating Editorial Corrections. No comments have been received on P-Draft. The committee may deliberate and decide.
13.	IS 8422 : Part 6	1977	Specification for piston rings for IC engines: Part 6 slotted oil control rings from 50 up to 200 mm nominal diameter S - Rings	The standard was allocated as ARP to Shri Tushit Kamal, Sc C, IRD. The ARP Report is Awaited. Meanwhile the document has been circulated as P draft as TED 02 (20907) P incorporating Editorial Corrections. The committee may deliberate and decide.
14.	IS 8422 : Part 7	1977	Specification for piston rings for IC engines: Part 7 double bevelled slotted oil control rings from 50 up to 200 mm nominal diameter G - Rings	The standard was allocated as ARP to Shri Shubham Tiwari, Sc C, JPBO. The ARP Report is Awaited. Meanwhile the document has been circulated as P draft as TED 02 (20908) P incorporating Editorial Corrections. The committee may deliberate and decide.

15.	IS 9262	1979	Recommendations for gear positions for road vehicles	Review document generated and circulated through BIS Portal. P draft has been circulated as TED 02 (21508) P. No comments have been received. The draft may be sent for Wide Circulation. The committee may decide.
16.	IS 7347	1974	Specification for performance of small size spark ignition engines	ARP has been allocated to Shri Tushit Kamal, Sc C, IRD. ARP report is awaited. The committee may please note.
17.	IS 3173	1965	Specification for high pressure connections for fuel injection equipment for diesel engines	ARP has been allocated to Shri Tushit Kamal, Sc C, IRD. ARP report is awaited. The committee may please note.
18.	IS 2765	1982	Specification for radiator hose (First Revision)	ARP has been allocated to Shri Prabhu nath Yadav, Sc D, Raipur BO. ARP report has been submitted, circulated through email to all the committee members and also attached at Annexure -8. The committee may deliberate and decide.
19.	IS 10105	1982	Specification for fittings for cylinder pressure indicators for internal combustion engines	ARP has been allocated to Shri Prabhu nath Yadav, Sc D, Raipur BO. ARP report is awaited.

				The committee may please note.
20.	IS 10533	1983	Specification for valve guides for internal combustion engines	ARP has been allocated to Shri Prabhu nath Yadav, Sc D, Raipur BO. ARP report is awaited. The committee may please note.
21.	IS 6750	1985	Specification for cylinder liners for internal combustion engines (First Revision)	ARP has been allocated to Shri Hari Om Meena, Sc B. ARP report has been submitted, circulated through BIS Portal to all the committee members and also attached at Annexure - 9. The committee may deliberate and decide.
22.	IS 6740	1985	Specification for gudgeon pins for internal combustion engines (First Revision)	ARP has been allocated to Shri Hari Om Meena, Sc B. ARP report has been submitted, circulated through BIS Portal to all the committee members and also attached at Annexure - 10. The committee may deliberate and decide.
23.	IS/ISO 8528 : PART 10	1998	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets: Part 10 Measurement of Airborne Noise by the Enveloping Surface Method	The standard is identical adoption of ISO 8528-10 : 1998. ISO 8528-10 has been revised in 2022. The committee may decide to revise the standard to align it with latest ISO Standard.
24.	IS/ISO 8528 :	1997	Reciprocating internal combustion engine driven alternating current generating	The standard is identical adoption of ISO 8528-12 : 1997.

	PART 12		sets: Part 12 emergency power supply to safety services	ISO 8528-12 has been revised in 2022. The committee may decide to revise the standard to align it with latest ISO Standard.
25.	IS/ISO 8178 : Part 3	1994	Reciprocating internal combustion engines - Exhaust emission measurement: Part 3 definitions and methods of measurement of exhaust gas smoke under steady - State conditions	The standard is identical adoption of ISO 8178-3 : 1994. ISO 8178-3 has been revised in 2019. The committee may decide to revise the standard to align it with latest ISO Standard.
26.	IS 10000 : Part 1	1980	Methods of tests for internal combustion engines: Part 1 glossary of terms relating to test methods	The committee may note and assign the work to relevant expert.
27.	IS 10000 : Part 2	1980	Methods of tests for internal combustion engines Part 2 standard reference conditions	
28.	IS 10000 : Part 3	1980	Methods of tests for internal combustion engines: Part 3 measurements for testing - Units and limits of accuracy	
29.	IS 10000 : Part 4	1980	Methods of tests for internal combustion engines: Part 4 declaration of power, efficiency, fuel consumption and lubricating oil consumption	
30.	IS 10000 : Part 5	1980	Methods of tests for internal combustion engines: Part 5 preparation for tests and measurements for wear	
31.	IS 10000 : Part 6	1980	Methods of tests for internal combustion engines: Part 6 recording of test results	
32.	IS 10000 : Part 7	1980	Methods of tests for internal combustion, engines: Part 7 governing tests for constant speed engines and selection of engines for use with electrical generators	

33.	IS 10000 : Part 8	1980	Methods of tests for internal combustion engines Part 8 performance tests	
34.	IS 10000 : Part 9	1980	Methods of tests for internal combustion engines: Part 9 endurance tests	
35.	IS 10000 : Part 10	1980	Methods of tests for internal combustion engines: Part 10 tests for smoke levels, limits and corrections for smoke levels for variable ,speed compression ignition engines	
36.	IS 10000 : Part 11	1980	Methods of tests for internal combustion engines: Part 11 information to be supplied by the purchaser to the manufacturer and information to be supplied by the manufacturer along with the engine	
37.	IS 10000 : Part 12	1980	Methods of tests for internal combustion engines: Part 12 specimen test certificates	
38.	IS 9418	1980	Dimensions for mounting flanges for in - Line fuel injection pumps for multi - Cylinder compression ignition engines	
39.	IS 9465	1980	Mounting dimensions for in - Line injection pump assemblies for fuel injection equipment for multi - Cylinder compression ignition engines	
40.	IS 3171 : Part 1	1997	Internal Combustion Engines - Fuel Injection Nozzle Holders - Part 1 : Flange Mounted Fuel Injectors Size `S' Types 2, 3, 4, 5 and 6	
41.	IS 3171 : Part 3	1997	Internal combustion engines - Fuel injection nozzle holders: Part 3 screw mounted injection nozzle holders, types 12,13,14,15,16,17,18 and 19	
42.	IS 13051	1991	Internal combustion engines radiator fans - Specification	
43.	IS 13029	1991	Internal combustion engines - setting ignition timing in spark ignition engines - Code of practice	
44.	IS 12996	1990	Internal combustion engines radiator pressure caps - Specification	

45.	IS 12902	1990	Commercial vehicles and buses - Gearbox flanges - Type A	
46.	IS 12903	1990	Commercial vehicles and buses - Gearbox flanges - Type S	
47.	IS 12973	1990	Commercial road vehicles - Side openings for truck power take - Offs (PTO)	
48.	IS 12905	1990	Commercial Vehicles- couplings Between Power Take-offs (PTO's) and Ancillary Driven Units	
49.	IS 12972	1990	Commercial road vehicles - Connections for rear - Mounted power take - Offs (PTO)	
50.	IS 12904	1990	Flywheel housings for reciprocating internal combustion engines - Nominal dimensions and tolerances	
51.	IS 12352	1988	Specification for fuel injection pump mounting bolts	
52.	IS 12460	1988	Automotive vehicles - Transmission systems - Manual control sequence in automatic transmissions - Recommendations	
53.	IS 9420 : Part 1	1988	Specification for feed pumps for diesel fuel injection equipment: Part 1 external dimensions(First Revision)	
54.	IS 12499	1988	Specification for two stage, 0.5 litre diesel fuel filters	
55.	IS 9420 : Part 2	1988	Specification for feed pumps for diesel fuel injection equipment: Part 2 types of drives	
56.	IS 12500	1988	Specification for 0.2 litre diesel fuel filters	
57.	IS 11838	1986	Recommendations for measurement of quality characteristics of gudgeon pins	
58.	IS 12404	1988	Specification for couplings for driving fuel injection pumps	

ITEM 6 PRESENT POSITION OF WORK

Present program of work of SC TED 02 as available on BIS Portal is as follows:

TED2 : Automotive Primemovers, Transmission Systems and Internal Combustion Engine

Scope : a) Standardization relating to automotive engines and transmission, components, stationary internal combustion engines for agriculture. b) Co-ordination of work with ISO/ TC 22, ISO/ TC 22/ SC 34, ISO/ TC 70, ISO/ TC 70/ SC 7 and ISO/ TC 70/ SC 8

Liaison : Array

Published Standards

SI. No.	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 810 : 1991	Internal combustion engines - Engine valves - Specification (Second Revision)	November, 2020	-	Indigenous
2	IS 1543 : 1964	Specification for single cylinder fuel injection pumps (Revised)	January, 2019	1	Indigenous
3	IS 2765 : 1982	Specification for radiator hose (First Revision)	November, 2020	1	Indigenous
4	IS 3169 : 1991	Internal combustion engines - Two stage, one litre, diesel fuel filters (First Revision)	November, 2020	1	Indigenous
5	IS 3170 (Part 1) : 2006 ISO 2697:1999 ISO 2697:1999	Internal Combustion Engines - Fuel Injection Nozzles Part 1 Injection Nozzles - Size `S'	November, 2020	-	Identical under dual numbering
6	IS 3170 (Part 2) : 2006 ISO 4010:1998 ISO 4010:1998	Internal combustion engines - Fuel injection nozzles: Part 2 calibrating nozzle, delay pintle type (First Revision)	November, 2020	-	Identical under dual numbering
7	IS 3171 (Part 1) : 1997 ISO 2699:1994 ISO 2699:1994	Internal Combustion Engines - Fuel Injection Nozzle Holders - Part 1 : Flange Mounted Fuel Injectors Size `S' Types 2, 3, 4, 5 and 6	July, 2021	-	Identical under dual numbering
8	IS 3171 (Part 2) : 2006 ISO 7026:1997 ISO 7026:1997	Internal Combustion Engines - Fuel Injection Nozzle Holders - Part 2 : Screw-in Injection Nozzle Holders, Types 20, 21, 21.1 and 27 for Pintle Nozzle Size `S', Type B	February, 2021	-	Identical under dual numbering
9	IS 3171 (Part 3) : 1997 ISO 7030:1987 ISO 7030:1987	Internal combustion engines - Fuel injection nozzle holders: Part 3 screw mounted injection nozzle holders, types 12,13,14,15,16,17,18 and 19	July, 2021	-	Identical under dual numbering
10	IS 3172 : 1997	Internal combustion engines - Fuel injection equipment - Single and double ended pipe unions (Single And Double Ended Banjo) - Specification (Second Revision)	July, 2021	1	Indigenous
11	IS 3173 : 1965	Specification for high pressure connections for fuel injection equipment for diesel engines	March, 2022	-	Indigenous
12	IS 3174 : 1974	Specification for pipe union bolt (First Revision)	January, 2019	-	Indigenous
13	IS 3175 : 2013	Internal combustion engine - Sealing washers for pipe unions - Specification (Second Revision)	May, 2018	-	Indigenous
14	IS 3351 : 2006 ISO 4020:2001		November, 2020	-	Identical under dual numbering

	ISO 4020:2001	Road vehicles - Fuel filters for diesel . engines - Test methods (Second Revision)			
15	IS 3649 : 2018	Automotive vehicles - Clutch facing for automotive transmission - Specification (First Revision)	-	-	Indigenous
16	IS 5791 : 2006 ISO 6621-3:2000 ISO 6621-3:2000	Internal combustion engines - Piston rings - Material specifications (Third Revision)	November, 2020	-	Identical under dual numbering
17	IS/ISO 6621-1 : 2018 ISO 6621-1:2018	Internal Combustion Engines — Piston Rings Part 1 Vocabulary (First Revision)	-	-	Identical under single numbering
18	IS/ISO 6621-2 : 2020 ISO 6621-2:2020	Internal combustion engines - Piston rings - Part 2: Inspection measuring principles		-	Identical under single numbering
19	IS 6740 : 1985	Specification for gudgeon pins for internal combustion engines (First Revision)	November, 2020	1	Indigenous
20	IS 6750 : 1985	Specification for cylinder liners for internal combustion engines (First Revision)	November, 2020	1	Indigenous
21	IS 7347 : 1974	Specification for performance of small size spark ignition engines	August, 2021	3	Indigenous
22	IS 7449 (Part 1) : 1974 IS 7451 (Part 1) : 2020	Glossary of terms for IC engines: Part 1 fuel injection equipment	September, 2019	-	Indigenous
23	ISO 2710-1:2017 ISO 2710-1:2017	Reciprocating Internal Combustion Engines — Vocabulary Part 1 Terms for Engine Design and Operation (Second Revision)	-	-	Identical under dual numbering
24	IS 7451 (Part 2) : 2006 ISO 1204:1990 ISO 1204:1990	Reciprocating internal combustion engines: Part 2 designation of the direction of rotation and of cylinders and valves in cylinder heads, and definition of right - Hand and left - Hand in - Line engines and locations on an engine (First Revision)	July, 2021	-	Identical under dual numbering
25	IS 7451 (Part 6) : 2007 ISO 2261:1994 ISO 2261:1994	Reciprocating internal combustion engines: Part 6 hand - Operated control devices - Standard direction of motion (First Revision)	March, 2017	-	Identical under dual numbering
26	IS 7611 : 1993	Internal combustion engines radiators - Specification (First Revision)	January, 2019	-	Indigenous
27	IS 7657 (Part 1) : 1975	Specification for starter ring gears for internal combustion engines: Part 1 gears for inertia and solenoid pre - Engaged starters	September, 2019	1	Indigenous
28	IS 7657 (Part 2) : 1975	Specification for starter ring gears for internal combustion engines: Part 2 gears for axial and coaxial starters	September, 2019	-	Indigenous
29	IS 8118 : 2008	Automotive vehicles - Opacity (Smoke) of exhuast gas from vehicles equipped with compression ignition engines operating under free acceleration -	January, 2019	-	Indigenous

		Method of measurement (Third Revision)			
30	IS/ISO 8178-1 : 2023 ISO 8178-1:2020	Reciprocating internal combustion engines Exhaust emission measurement Part 1: Test bed measurement systems of gaseous and particulate emissions		-	Identical under single numbering
31	IS/ISO 8178-3 : 2019 ISO 8178-3:2019	Reciprocating internal combustion engines - Exhaust emission measurement - Part 3: Test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using a filter type smoke meter		-	Identical under single numbering
32	IS/ISO 8178-4 : 2020 ISO 8178-4:2020	Reciprocating internal combustion engines Exhaust emission measurement Part 4: Steady-state and transient test cycles for different engine applications		-	Identical under single numbering
33	IS/ISO 8178-7 : 2015 ISO 8178-7:2015	Reciprocating internal combustion engine - Exhaust emission measurement: Part 7 engine family determination (First Revision)	November, 2020	-	Identical under single numbering
34	IS/ISO 8178-8 : 2015 ISO 8178-8:1994	Reciprocating internal combustion engines - Exhaust emission measurement: Part 8 engine group determination	November, 2020	-	Identical under single numbering
35	IS/ISO 8178-9 : 2019 ISO 8178-9:2019	Reciprocating internal combustion engines - Exhaust emission measurement - Part 9: Test cycles and test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using an opacimeter		-	Identical under single numbering
36	IS 8422 (Part 1) : 1977	Specification for piston rings for IC engines: Part 1 plain compression rings from 30 up to 200 mm nominal diameter R - Rings	September, 2019	-	Indigenous
37	IS 8422 (Part 2) : 1977	Specification for piston rings for IC engines: Part 2 taper faced compression rings from 30 up to 200 mm nominal diameter M - Rings	September, 2019	-	Indigenous
38	IS 8422 (Part 3) : 1977	Specification for piston rings for IC engines: Part 3 keystone rings from 82 up to 200 mm nominal diameter T - Rings 15	September, 2019	-	Indigenous
39	IS 8422 (Part 4) : 1977	Specification for piston rings for IC engines: Part 4 napier oil scraper rings from 30 up to 200 mm nominal diameter N - Rings	September, 2019	-	Indigenous
40	IS 8422 (Part 5) : 1977	Specification for piston rings for IC engines: Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter Z - Rings	September, 2019	-	Indigenous
41	IS 8422 (Part 6) : 1977	Specification for piston rings for IC engines: Part 6 slotted oil control rings from 50 up to 200 mm nominal diameter S - Rings	September, 2019	-	Indigenous

42	IS 8422 (Part 7) : 1977	Specification for piston rings for IC engines: Part 7 double bevelled slotted oil control rings from 50 up to 200 mm nominal diameter G - Rings	September, 2019	-	Indigenous
43	IS 8422 (Part 8) : 1977	Specification for piston rings for IC engines: Part 8 narrow land slotted oil control rings from 50 up to 200 mm nominal diameter D - Rings	September, 2019	-	Indigenous
44	IS 8503 : 1986	Technical supply conditions for aluminium alloy pistons for internal combustion engines (First Revision)	November, 2020	1	Indigenous
45	IS/ISO 8528-1 : 2018 ISO 8528-1:2018	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 1 Application, Ratings and Performance (First Revision)	September, 2019	-	Identical under single numbering
46	IS/ISO 8528-2 : 2018 ISO 8528-2:2018	Reciprocating internal combustion engine driven alternating current generating sets - Part 2: Engines		-	Identical under single numbering
47	IS/ISO 8528-3 : 2020 ISO 8528-3:2020	Reciprocating internal combustion engine driven alternating current generating sets Part 3: Alternating current generators for generating sets		-	Identical under single numbering
48	IS/ISO 8528-4 : 2005 ISO 8528-4:2005	Reciprocating internal combustion engine driven alternating current generating sets: Part 4 controlgear and switchgear	September, 2019	-	Identical under single numbering
49	IS/ISO 8528-5 : 2018 ISO 8528-5:2018	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 5 Generating Sets (First Revision)	September, 2019	-	Identical under single numbering
50	IS/ISO 8528-6 : 2005 ISO 8528-6:2005	Reciprocating internal combustion engine driven alternating current generating sets: Part 6 test methods	September, 2019	-	Identical under single numbering
51	IS/ISO 8528-7 : 2017 ISO 8528-7:2017	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 7 Technical Declarations for Specification and Design (First Revision)	September, 2019	-	Identical under single numbering
52	IS/ISO 8528-8 : 2016 Identical to ISO 852	Reciprocating internal combustion engine driven alternating current generating sets: Part 8 requirements and tests for low - Power generating sets (First Revision)	-	-	Identical under single numbering
53	IS/ISO 8528-9 : 2017 ISO 8528-9:2017	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 9 Measurement and Evaluation of Mechanical Vibrations (First Revision)	September, 2019	-	Identical under single numbering
54	IS/ISO 8528-10 : 1998 ISO 8528-10 : 1998 ISO 8528-10 : 1998	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets: Part 10 Measurement of Airborne Noise by the Enveloping Surface Method	September, 2019	-	Identical under dual numbering
55	IS/ISO 8528-12 : 1997 ISO 8528-12:1997	Reciprocating internal combustion engine driven alternating current generating sets: Part 12 emergency power supply to safety services	September, 2019	-	Identical under single numbering

56	IS 9262 : 1979	Recommendations for gear positions for road vehicles	November, 2020	-	Indigenous
57	IS 9418 : 1980	Dimensions for mounting flanges for in - Line fuel injection pumps for multi - Cylinder compressiom ignition engines	November, 2020	-	Indigenous
58	IS 9420 (Part 1) : 1988	Specification for feed pumps for diesel fuel injection equipment: Part 1 external dimensions(First Revision)	September, 2019	-	Indigenous
59	IS 9420 (Part 2) : 1988	Specification for feed pumps for diesel fuel injection equipment: Part 2 types of drives	September, 2019	-	Indigenous
60	IS 9465 : 1980	Mounting dimensions for in - Line injection pump assemblies for fuel injection equipment for multi - Cylinder compression ignition engines	November, 2020	1	Indigenous
61	IS 10000 (Part 1) : 1980	Methods of tests for internal combustion engines: Part 1 glossary of terms relating to test methods	November, 2020	-	Indigenous
62	IS 10000 (Part 2) : 1980	Methods of tests for internal combustion engines Part 2 standar d reference conditions	November, 2020	1	Indigenous
63	IS 10000 (Part 3) : 1980	Methods of tests for internal combustion engines: Part 3 measurements for testing - Units and limits of accuracy	November, 2020	1	Indigenous
64	IS 10000 (Part 4) : 1980	Methods of tests for internal combustion engines: Part 4 declaration of power, efficiency, fuel consumption and lubricating oil consumption	November, 2020	1	Indigenous
65	IS 10000 (Part 5) : 1980	Methods of tests for internal combustion engines: Part 5 preparation for tests and measurements for wear	November, 2020	1	Indigenous
66	IS 10000 (Part 6) : 1980	Methods of tests for internal combustion engines: Part 6 recording of test results	November, 2020	1	Indigenous
67	IS 10000 (Part 7) : 1980	Methods of tests for internal combustion, engines: Part 7 governing tests for constant speed engines and selection of engines for use with electrical generators	November, 2020	2	Indigenous
68	IS 10000 (Part 8) : 1980	Methods of tests for internal combustion engines Part 8 performance tests	November, 2020	1	Indigenous
69	IS 10000 (Part 9) : 1980	Methods of tests for internal combustion engines: Part 9 endurance tests	November, 2020	-	Indigenous
70	IS 10000 (Part 10) : 1980	Methods of tests for internal combustion engines: Part 10 tests for smoke levels, limits and corrections for smoke levels for variable ,speed compression ignition engines	November, 2020	-	Indigenous
71	IS 10000 (Part 11) : 1980	Methqds of tests for internal combustion engines: Part 11 information to be supplied by the purchaser to the manufacturer and information to be supplied by the manufacturer along with the engine	November, 2020	-	Indigenous

72	IS 10000 (Part 12) : 1980	Methods of tests for internal combustion engines: Part 12 specimen test certificates	November, 2020	-	Indigenous
73	IS 10000 (Part 13) : 2002	Methods of tests for internal combustion engines: Part 13 recommendations on nature of tests required for functional changes in critical components	December, 2018	1	Indigenous
74	IS 10001 : 1981 ISO 3046	Performance Requirements for Constant Speed Compression ignition (diesel) engines for general purposes (up to 20 kW)	July, 2021	6	Modified/Technically Equivalent
75	IS H10001 : 1981 ISO 3046	Specification for performance requirements for constant speed compression ignition (Diesel) engines for general purposes (Up To 20 Kw)	July, 2021	6	Modified/Technically Equivalent
76	IS 10002 : 1981 ISO 3046	Specification for performance requirements for constant speed compression ignition (Diesel) engines for general purposes (Above 20 KW)	July, 2021	3	Modified/Technically Equivalent
77	IS 10105 : 1982	Specification for fittings for cylinder pressure indicators for internal combustion engines	September, 2019	2	Indigenous
78	IS 10323 : 2019	Crank and chain wheel for moped - Specification (First Revision)	-	-	Indigenous
79	IS 10478 : 2018 ISO 6519:2015 ISO 6519:2015	Diesel engines - Fuel injection pumps - Tapers for shaft ends and hubs (Second Revision)	-	-	Identical under dual numbering
80	IS 10533 : 1983	Specification for valve guides for internal combustion engines	September, 2019	-	Indigenous
81	IS 10651 : 2019	Hub axle, front for moped - Specification (First Revision)	-	-	Indigenous
82	IS 10652 : 2019	Pedal assembly for moped - Specification (First Revision)	-	-	Indigenous
83	IS 10653 : 2019	Hub axle, rear, for moped - Specification (First Revision)	-	-	Indigenous
84	IS 11139 : 2019	Adjusters for control cables for moped - Specification (First Revision)	-	-	Indigenous
85	IS 11170 : 1985 ISO 3046	Specification for 1 performance requirements for constant speed compression ignition (Diesel) engines for agricultural purposes (Up To 20 KW)	July, 2021	5	Modified/Technically Equivalent
86	IS 11509 (Part 1) : 2012 ISO 4548-1:1997 ISO 4548-1:1997	Methods of test for full - Flow lubricating oil filters for internal combustion engines: Part 1 differential pressure/flow characteristics (First Revision)	December, 2017	-	Identical under dual numbering
87	IS 11509 (Part 2) : 2012 ISO 4548-2:1997 ISO 4548-2:1997	Methods of test for full - Flow lubricating oil filters for internal combustion engines: Part 2 element by - Pass valve characteristics (First Revision)	December, 2017	-	Identical under dual numbering
88	IS 11509 (Part 3) : 2012 ISO 4548-3:1997 ISO 4548-3:1997	Methods of test for full - Flow lubricating oil filters for internal combustion engines: Part 3 resistance to high differential pressure and to elevated temperature (First Revision)	December, 2017	-	Identical under dual numbering

	IS 11509 (Part 5) : 2023 ISO 4548-5:2020 ISO 4548-5:2020	Method of test for full-flow lubricating oil filters for internal combustion engines - Part 5: Test for hydraulic pulse durability		-	Identical under dual numbering
89					
	IS 11509 (Part 5) : 2018 ISO 4548-5:2020 ISO 4548-5:2020	Methods of test for full flow lubricating oil filters for internal combustion engines: Part 5 test for cold start simulation and hydraulic pulse durability (Second Revision)		-	Identical under dual numbering
90					
91	IS 11838 : 1986	Recommendations for measurement of quality characteristics of gudgeon pins	July, 2021	1	Indigenous
92	IS 12025 : 1987	Recommendations for measurement of quality characteristics for pistons	December, 2017	1	Indigenous
93	IS 12352 : 1988	Specification for fuel injection pump mounting bolts	September, 2019	-	Indigenous
94	IS 12404 : 1988	Specification for couplings for driving fuel injection pumps	September, 2019	-	Indigenous
95	IS 12455 : 1988	Performance requirements of aircooled spark ignition automotive engines	September, 2019	-	Indigenous
96	IS 12460 : 1988	Automotive vehicles - Transmission systems - Manual control sequence in automatic transmissions - Recommendations	September, 2019	1	Indigenous
97	IS 12499 : 1988	Specification for two stage, 0.5 litre diesel fuel filters	September, 2019	-	Indigenous
98	IS 12500 : 1988	Specification for 0.2 litre diesel fuel filters	September, 2019	-	Indigenous
99	IS 12535 (Part 1) : 1988	Automotive vehicles - Transmission systems - Glossary: Part 1 general definitions	September, 2019	-	Indigenous
100	IS 12535 (Part 2) : 1991	Automotive vehicles - Transmission systems - Glonssary: Part 2 universal joints and driveshafts	July, 2021	-	Indigenous
101	IS 12535 (Part 3) : 1991	Automotive vehicles - Transmission systems - Glossary: Part 3 drive axles definitions	July, 2021	-	Indigenous
102	IS 12587 : 1989	Automotive vehicles - Transmission system - Gear arrangement - Recommendations	September, 2019	-	Indigenous
	IS 12902 : 1990 ISO 7646:1986				
103	ISO 7646:1986	Commercial vehicles and buses - Gearbox flanges - Type A	July, 2021	-	Identical under dual numbering
	IS 12903 : 1990 ISO 7647:1986				
104	ISO 7647:1986	Commercial vehicles and buses - Gearbox flanges - Type S	July, 2021	-	Identical under dual numbering
	IS 12904 : 1990 ISO 7648:1987	Flywheel housings for reciprocating internal combustion engines - Nominal dimensions and tolerances			
105	ISO 7648:1987		July, 2021	-	Identical under dual numbering
	IS 12905 : 1990 ISO 7653:1985	Commercial Vehicles-couplings Between Power Take-offs (PTO's) and Ancillary Driven Units			
106	ISO 7653:1985		July, 2021	-	Identical under dual numbering
	IS 12972 : 1990				
107	ISO 7707:1986		July, 2021	-	Identical under dual numbering

	ISO 7707:1986	Commercial road vehicles - Connections for rear - Mounted power take - Offs (PTO)			
108	IS 12973 : 1990 ISO 7804:1985 ISO 7804:1985	Commercial road vehicles - Side openings for truck power take - Offs (PTO)	July, 2021	-	Identical under dual numbering
109	IS 12978 : 2006 ISO 8667:1992 ISO 8667:1992	Commercial vehicles and buses - Cross - Tooth gearbox flanges, type T (First Revision)	November, 2020	-	Identical under dual numbering
110	IS 12996 : 1990	Internal combustion engines radiator pressure caps - Specification	September, 2019	-	Indigenous
111	IS 13016 : 1991	Internal combustion engines - Radiator drain cocks - Specification	November, 2020	-	Indigenous
112	IS 13018 : 1990	Internal combustion of test for pressure engines - Method charged engines	September, 2019	-	Indigenous
113	IS 13029 : 1991	Internal combustionengines - setting ignition timing in spark ignition engines - Code of practice	November, 2020	-	Indigenous
114	IS 13050 : 1991	Internal combustion engines - Valve seat inserts - Specification	November, 2020	-	Indigenous
115	IS 13051 : 1991	Internal combustion engines radiator fans - Specification	November, 2020	-	Indigenous
116	IS 13052 : 1991	Internal combustion engines - Cylinder liners - Quality characteristics	November, 2020	-	Indigenous
117	IS 13090 : 2018 ISO 7649:1991	Automotive vehicles - Commercial vehicles - Clutch housings - Dimensions (First Revision)	-	-	Modified/Technically Equivalent
118	IS 13686 : 1993	Internal combustion engines radiators - Methods of test	January, 2019	-	Indigenous
119	IS 13687 : 1993	Internal combustion engines - Radiators - Heat dissipation performance - Method of test	January, 2019	-	Indigenous
120	IS 13824 : 1993	Internal combustion engines - Method of verification of emission of crankcase gases for vehicles powered with four stroke spark ignition engines	January, 2019	-	Indigenous
121	IS 14273 : 1999	Automotive vehicles - Exhaust emissions - Gaseous pollutants from vehicles fitted with compression ignition engines - Method of measurement	January, 2019	-	Indigenous
122	IS 14511 (Part 1) : 2007 ISO 8984-1:1993 ISO 8984-1:1993	Diesel engines - Testing of fuel injectors: Part 1 hand - Lever - Operated testing and setting apparatus (First Revision)	December, 2017	-	Identical under dual numbering
123	IS 14511 (Part 2) : 2007 ISO 8984-2:1993 ISO 8984-2:1993	Diesel engines - Testing of fuel injectors: Part 2 test methods (First Revision)	December, 2017	-	Identical under dual numbering
124	IS 14553 : 2008	Automotive vehicles - Apparatus for the measurement of opacity (Smoke) of exhaust gas from vehicles equipped with compression ignition engines - Specification (First Revision)	January, 2019	-	Indigenous

125	IS 14599 : 1999	Automotive vehicles - Performance requirements (Measurement Of Power, SFC, Opacity) of positive and compression ignition engines - Method of test	September, 2019	-	Indigenous
126	IS 14600 : 1999	Automotive vehicles - Exhaust emissions - Gaseous pollutants from vehicles equipped with internal combustion engines - Method of measurement	September, 2019	-	Indigenous
127	IS 15653 : 2021 ISO 2710-2:2019 ISO 2710-2:2019	Reciprocating internal combustion engine - Vocabulary - Terms for engine maintenance		-	Identical under dual numbering
128	IS 16057 : 2013	Lpg operated internal combustion engines - Safety and performance requirements - Specification	August, 2018	-	Indigenous
129	IS 17019 : 2018	Gear / gerotor oil pump for motorcycle / scooter / moped - Specification		-	Indigenous
130	IS 17042 (Part 4) : 2018 ISO 22241-4 ISO 22241-4	Diesel Engines â€" NOX Reduction Agent AUS 32 Part 4 Refilling Interface		-	Identical under dual numbering
131	IS 17042 (Part 5) : 2018 ISO 22241-5 ISO 22241-5	Diesel engines - Nox reduction agent aus 32: Part 5 refilling interface for passenger cars		-	Identical under dual numbering
132	IS 17458 : 2018 ISO 6826:1997 ISO 6826:1997	Reciprocating internal combustion engine - Fire protection		-	Identical under dual numbering

Standards Under Develpoment

Projects Approved

SI. No.	Doc No	TITLE

No Records Found

Preliminary Draft Standards

SI. No.	Doc No	TITLE
1	TED 2 (20797)	RECOMMENDATIONS FOR MEASUREMENT OF QUALITY CHARACTERISTICS FOR PISTONS
2	TED 2 (20894)	SPECIFICATION FOR SINGLE CYLINDER FUEL INJECTION PUMPS
3	TED 2 (20895)	Specification for pipe union bolt Second Revision
4	TED 2 (20896)	GLOSSARY OF TERMS FOR IC ENGINES PART 1 FUEL INJECTION EQUIPMENT

5	TED 2 (20898)	SPECIFICATION FOR STARTER RING GEARS FOR INTERNAL COMBUSTION ENGINES PART 2 GEARS FOR AXIAL AND COAXIAL STARTERS
6	TED 2 (20900)	SPECIFICATION FOR STARTER RING GEARS FOR INTERNAL COMBUSTION ENGINES PART 1 GEARS FOR INERTIA AND SOLENOID PRE-ENGAGED STARTERS
7	TED 2 (20902)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART I PLAIN COMPRESSION RINGS FROM 30 UP TO 200 MM NOMINAL DIAMETER R RINGS
8	TED 2 (20903)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 2 TAPER FACED COMPRESSION RINGS FROM 30 UP TO 200 MM NOMINAL DIAMETER M RINGS
9	TED 2 (20904)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 3 KEYSTONE RINGS FROM 82 UP TO 200 MM NOMINAL DIAMETER T - RINGS 15
10	TED 2 (20905)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 4 NAPIER OIL SCRAPER RINGS FROM 30 UP TO 200 MM NOMINAL DIAMETER N-RINGS
11	TED 2 (20906)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 5 STEPPED OIL SCRAPER RINGS FROM 30 UP TO 200 mm NOMINAL DIAMETER Z-RINGS
12	TED 2 (20907)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 6 SLOTTED OIL CONTROL RINGS NOMINAL DIAMETER FROM 50 TO 200MM S - RINGS
13	TED 2 (20908)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 7 DOUBLE BEVELED SLOTTED OIL CONTROL RING 50 TO 200MM NOMINAL DIAMETER G RINGS
14	TED 2 (20909)	SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART 8 NARROW GROUND SLOTTED OIL CONTROL RINGS 50 TO 200MM NOMINAL DIAMETER D RINGS
15	TED 2 (21508)	RECOMMENDATIONS FOR GEAR POSITIONS FOR ROAD VEHICLES

Drafts Standards in WC Stage

SI. No.	Doc No	TITLE

1	TED 2 (22709) (ISO 6826: 2022)	Reciprocating Internal Combustion Engine Fire Protection

Draft Standards Completed WC Stage

SI. No.	Doc No	TITLE
1	TED 2 (16879)	Automotive power - Performance requirements Measurement of power sfc opacity of positive and compression ignition engine - Method of test

Finalized Draft Indian Standard

SI. No.	Doc No	TITLE

No Records Found

Finalized Draft Indian Standards under Print

SI. No.	Doc No	TITLE
1	TED 2 (16665)	

Total Published Standards:131

Total Standards Under development : 18

Aspect Wise Report

Product:	65
Code of Practices :	6
Methods of Test :	39
Terminology :	6
Dimensions :	6
System Standard :	0
Safety Standard :	0
Others :	9
Service Specification :	0
Process Specification :	0
Unclassified :	0

Total :131

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	TITLE
1	IS 1600 : 1960	Code For Type Testing Of Constant Speed Internal Combustion Engines For General Purpose
2	IS 1601 : 1960	Performance of constant speed internal combustion engines for general purposes
3	IS 1602 : 1960	Code for type testing of variable speed internal combustion engines for automotive purposes
4	IS 1603 : 1960	Performance of variable-speed internal combustion engines for automotive purpose
5	IS 3511 : 1966	Cylinder bore diameters for internal combustion engines
6	IS 7451 (Part 3) : 1974	Reciprocating Internal Combustion Engines - Part III Definition of Right-Hand and Left-Hand Single Bank Engines
7	IS 7451 (Part 4) : 1974	Reciprocating Internal Combustion Engines - Part IV Designation of Direction of Rotation
8	IS 7451 (Part 5) : 1974	Reciprocating Internal Combustion Engines - Part V Designation of the Cylinders
9	IS 8422 (Part 9) : 1986	Piston rings for lC engines Part 9 Terms and Definitions
10	IS 10003 : 1988	Compression Ignition Diesel Engines For Automotive Application
11	IS 10004 : 1981	Performance Requirements for Spark Ignition Engines for Automotive Purposes
12	IS 11509 (Part 6) : 2006 ISO 4548-5:1990 ISO 4548-5:1990	Methods of test for full - Flow lubricating oil filters for internal combustion engines Part 6 cold start simulation and hydraulic pulse durability test First Revision
13	IS 12022 : 1987	Methods of Testing of Quality Characteristics for Piston Rings
14	IS 12969 : 1990	Internal Combustion Engines - Methods of Test for Quality Characteristics of Valves
15	IS 12971 : 1990 ISO 7706:1985 ISO 7706:1985	Road vehicles - Commercial vehicles clearance envelope for power take - Offs PTO
16	IS 14511 : 1998	Automotive Vehicles - Testing of fuel Injectors - Hand Lever Testing Apparatus
17	IS 14555 : 1998	Automotive Vehicles - Evaporative Emissions from Vehicles Equipped with Spark Ignition Engines - Method of Measurement
18	IS 14556 : 1998	Automotive Vehicles - Catalytic Converters for Spark Ignition Engines - Installed Requirements

SI. No.	IS No. & Year	TITLE
1	IS 810 : 1991	Internal combustion engines - Engine valves - Specification Second Revision
2	IS 1543 : 1964	Specification for single cylinder fuel injection pumps Revised
3	IS 2765 : 1982	Specification for radiator hose First Revision
4	IS 3169 : 1991	Internal combustion engines - Two stage one litre diesel fuel filters First Revision
5	IS 3170 (Part 1) : 2006 ISO 2697:1999 ISO 2697:1999	Internal Combustion Engines - Fuel Injection Nozzles Part 1 Injection Nozzles - Size S
6	IS 3170 (Part 2) : 2006 ISO 4010:1998 ISO 4010:1998	Internal combustion engines - Fuel injection nozzles Part 2 calibrating nozzle delay pintle type First Revision
7	IS 3171 (Part 1) : 1997 ISO 2699:1994 ISO 2699:1994	Internal Combustion Engines - Fuel Injection Nozzle Holders - Part 1 Flange Mounted Fuel Injectors Size S Types 2 3 4 5 and 6
8	IS 3171 (Part 2) : 2006 ISO 7026:1997 ISO 7026:1997	Internal Combustion Engines - Fuel Injection Nozzle Holders - Part 2 Screw-in Injection Nozzle Holders Types 20 21 21 1 and 27 for Pintle Nozzle Size S Type B
9	IS 3171 (Part 3) : 1997 ISO 7030:1987 ISO 7030:1987	Internal combustion engines - Fuel injection nozzle holders Part 3 screw mounted injection nozzle holders types 12 13 14 15 16 17 18 and 19
10	IS 3172 : 1997	Internal combustion engines - Fuel injection equipment - Single and double ended pipe unions Single And Double Ended Banjo - Specification Second Revision
11	IS 3173 : 1965	Specification for high pressure connections for fuel injection equipment for diesel engines
12	IS 3174 : 1974	Specification for pipe union bolt First Revision
13	IS 3175 : 2013	Internal combustion engine - Sealing washers for pipe unions - Specification Second Revision
14	IS 3649 : 2018	Automotive vehicles - Clutch facing for automotive transmission - Specification First Revision
15	IS 5791 : 2006 ISO 6621-3:2000 ISO 6621-3:2000	Internal combustion engines - Piston rings - Material specifications Third Revision
16	IS 6740 : 1985	Specification for gudgeon pins for internal combustion engines First Revision

17	IS 6750 : 1985	Specification for cylinder liners for internal combustion engines First Revision
18	IS 7347 : 1974	Specification for performance of small size spark ignition engines
19	IS 7451 (Part 6) : 2007 ISO 2261:1994 ISO 2261:1994	Reciprocating internal combustion engines Part 6 hand - Operated control devices - Standard direction of motion First Revision
20	IS 7611 : 1993	Internal combustion engines radiators - Specification First Revision
21	IS 7657 (Part 1) : 1975	Specification for starter ring gears for internal combustion engines Part 1 gears for inertia and solenoid pre - Engaged starters
22	IS 7657 (Part 2) : 1975	Specification for starter ring gears for internal combustion engines Part 2 gears for axial and coaxial starters
23	IS 8422 (Part 1) : 1977	Specification for piston rings for IC engines Part 1 plain compression rings from 30 up to 200 mm nominal diameter R - Rings
24	IS 8422 (Part 2) : 1977	Specification for piston rings for IC engines Part 2 taper faced compression rings from 30 up to 200 mm nominal diameter M - Rings
25	IS 8422 (Part 3) : 1977	Specification for piston rings for IC engines Part 3 keystone rings from 82 up to 200 mm nominal diameter T - Rings 15
26	IS 8422 (Part 4) : 1977	Specification for piston rings for IC engines Part 4 napier oil scraper rings from 30 up to 200 mm nominal diameter N - Rings
27	IS 8422 (Part 5) : 1977	Specification for piston rings for IC engines Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter Z - Rings
28	IS 8422 (Part 6) : 1977	Specification for piston rings for IC engines Part 6 slotted oil control rings from 50 up to 200 mm nominal diameter S - Rings
29	IS 8422 (Part 7) : 1977	Specification for piston rings for IC engines Part 7 double bevelled slotted oil control rings from 50 up to 200 mm nominal diameter G - Rings
30	IS 8422 (Part 8) : 1977	Specification for piston rings for IC engines Part 8 narrow land slotted oil control rings from 50 up to 200 mm nominal diameter D - Rings
31	IS/ISO 8528-4 : 2005 ISO 8528-4:2005	Reciprocating internal combustion engine driven alternating current generating sets Part 4 controlgear and switchgear
32	IS/ISO 8528-5 : 2018 ISO 8528-5:2018	Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 5 Generating Sets First Revision
33	IS/ISO 8528-8 : 2016	Reciprocating internal combustion engine driven alternating current

	Identical to ISO 852	generating sets Part 8 requirements and tests for low - Power generating sets First Revision
	IS/ISO 8528-12 : 1997	Reciprocating internal combustion engine driven alternating current
34	ISO 8528-12:1997	generating sets Part 12 emergency power supply to safety services
	IS 10001 : 1981	Performance Requirements for Constant Speed Compression
35	ISO 3046	ignition diesel engines for general purposes up to 20 kW
	IS 10001 : 1981	Specification for performance requirements for constant speed compression ignition Diesel
36	ISO 3046	engines for general purposes Up To 20 Kw
	IS 10002 : 1981	Specification for performance requirements for constant speed compression ignition Diesel
37	ISO 3046	engines for general purposes Above 20 KW
38	IS 10105 : 1982	Specification for fittings for cylinder pressure indicators for internal combustion engines
39	IS 10323 : 2019	Crank and chain wheel for moped - Specification First Revision
40	IS 10533 : 1983	Specification for valve guides for internal combustion engines
41	IS 10651 : 2019	Hub axle front for moped - Specification First Revision
42	IS 10652 : 2019	Pedal assembly for moped - Specification First Revision
43	IS 10653 : 2019	Hub axle rear for moped - Specification First Revision
44	IS 11139 : 2019	Adjusters for control cables for moped - Specification First Revision
	IS 11170 : 1985	Specification for 1 performance requirements for constant speed compression ignition Diesel
45	ISO 3046	engines for agricultural purposes Up To 20 KW
46	IS 12352 : 1988	Specification for fuel injection pump mounting bolts
47	IS 12404 : 1988	Specification for couplings for driving fuel injection pumps
48	IS 12455 : 1988	Performance requirements of aircooled spark ignition automotive engines
49	IS 12460 : 1988	Automotive vehicles - Transmission systems - Manual control sequence in automatic transmissions - Recommendations
50	IS 12499 : 1988	Specification for two stage 0 5 litre diesel fuel filters
51	IS 12500 : 1988	Specification for 0 2 litre diesel fuel filters
52	IS 12535 (Part 2) : 1991	Automotive vehicles - Transmission systems - Glonssary Part 2 universal joints and driveshafts
	IS 12902 : 1990	
	ISO 7646:1986	
53	ISO 7646:1986	Commercial vehicles and buses - Gearbox flanges - Type A

	IS 12903 : 1990	
	ISO 7647:1986	Commercial vehicles and buses -
54	ISO 7647:1986	Gearbox flanges - Type S
	IS 12905 : 1990	
	ISO 7653:1985	Commercial Vehicles-couplings Between Power Take-offs PTO s
55	ISO 7653:1985	and Ancillary Driven Units
	IS 12972 : 1990	
	ISO 7707:1986	Commercial road vehicles - Connections for rear - Mounted
56	ISO 7707:1986	power take - Offs PTO
	IS 12973 : 1990	
	ISO 7804:1985	Commercial road vehicles - Side openings for truck power take -
57	ISO 7804:1985	Offs PTO
	IS 12978 : 2006	
	ISO 8667:1992	Commercial vehicles and buses - Cross - Tooth gearbox flanges type
58	ISO 8667:1992	T First Revision
59	IS 12996 : 1990	Internal combustion engines radiator pressure caps - Specification
60	IS 13016 : 1991	Internal combustion engines - Radiator drain cocks - Specification
61	IS 13050 : 1991	Internal combustion engines - Valve seat inserts - Specification
62	IS 13051 : 1991	Internal combustion engines radiator fans - Specification
63	IS 13052 : 1991	Internal combustion engines - Cylinder liners - Quality characteristics
64	IS 16057 : 2013	Lpg operated internal combustion engines - Safety and performance requirements - Specification
65	IS 17019 : 2018	Gear gerotor oil pump for motorcycle scooter moped - Specification

The committee may please note.

ITEM 7 INTERNATIONAL ACTIVITIES

BIS membership in various ISO Committees related to scope of SC TED 02 is indicated below:

ISO Committee	Title	Membership Status
ISO TC 22	Road Vehicles	Principle (P)
ISO TC 22 / SC 34	Propulsion, Power-train and Power-train Fluids	Principle (P)
ISO TC 70	Internal Combustion Engines-	Principle (P)
ISO TC 70 / SC 7	Tests for Lubricating Oil Filters	Principle (P)

ISO TC 70 / SC 8	Exhaust Gas Measurement	Emission	Principle (P)	

India is a 'Participating' member on various documents generated by these Sub-committees. Being 'P' member it is obligatory for India to vote on all the documents. The documents are received from ISO Secretariat time to time are being circulated to members for comments. Accordingly, voting is being done.

The next meeting of ISO/TC 22 / SC 34 'Propulsion, powertrain and powertrain fluids' (Plenary) has been announced by ISO Secretariat and is scheduled to be held on 13 Oct 2023 at Troy, Michigan, USA in Face to Face Mode.

Draft Agenda for ISO TC 22 SC 34 Plenary has been issued by ISO Secretariat on 20/06/2023 on ISO Portal and the same has been attached at Annex-11. The committee may please note.

The committee may discuss and form a delegation to attend the ISO Meeting.

ITEM 8 DATE AND PLACE FOR THE NEXT MEETING

ITEM 9 ANY OTHER BUSINESS

ANNEXURE - 1

(Item 2.3)

COMPOSITION OF AUTOMOTIVE PRIMEMOVERS, TRANSMISSION SYSTEM ANDINTERNAL COMBUSTION ENGINES SECTIONAL COMMITTEE, TED 2

17th Meeting	9th September 2021	Virtual (Webex)
18th Meeting	20th December 2021	Virtual (Webex)
19th Meeting	22nd November 2022	Virtual (Webex)

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Attendance			Total	Status
			17th	18th	19th		
1)	Automotive Research Association of India, Pune	Shri N.V.Marathe **(Chairperson)** Dr. Prasanna G Bhat (P) Dr S S Ramdasi (A) N V Pawar (YP)	Y	Y	Y	3/3	E
2)	Ashok Leyland Limited, Chennai	Shri Muthukumar N (A) SHRI FAUSTINO V (P) Harish V (YP)	Y	Y	Y	3/3	I
3)	Association of State Road Transport Undertakings, New Delhi	R R K Kishore (P) Praful Math (A)	Y	Y	N	2/3	G
4)	Automotive Components Manufacturers Association,	Ms. Seema Babal (A) Shri Sanjay Tank (P)	Y	Y	Y	3/3	I
5)	Bajaj Auto Ltd,Pune	Shri Arvind V. Kumbhar (P) Shri Adish Aggarwal (A)	Y	Y	Y	3/3	I
6)	BEML Limited, Bengaluru	Shri M. Sasi Kumar (A) Shri Mahadev Nellur (P)	N	N	N	0/3	I
7)	Bosch Limited,Bangalore	K U Ravindra (P) H Shivaprakash (A)	Y	Y	Y	3/3	I
8)	Central Institute of Road Transport, Pune	Shri Mangesh M. Pathak (P) Nilesh Tagad (A) Shivraj Dudhe (YP)	Y	Y	Y	3/3	T
9)	Central Pollution Control Board, New Delhi	Shri Suneel Dave (A) Shri A Sudhakar (P)	N	N	N	0/3	G
10)	Concert Trust, Consumers Association of India, Chennai	Shri Mohan Mahadevan (A) Shri S. Sainath (P)	N	N	N	0/3	C
11)	Cummins India Limited, Pune	Shri Jugal K Mittal (P) Shri Tushar Kadam (A)	N	N	N	0/3	I
12)	Directorate General of Quality Assurance, Ministry of Defence, New Delhi	Brig BK Pokhriyal (P) Col. OP Bharati (A)	Y	N	Y	2/3	G
13)	Denso International India Private Limited, Gurugram	Shri Alok Kumar (A) Noel Alexander Peters (P) Ms. Alka Sharma (YP)	Y	Y	N	2/3	I
14)	Eaton Industrial System Private Limited, Pune	Hemang Raval (P) K V Rao (A)	N	Y	N	1/3	I

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Attendance			Total	Status
			17th	18th	19th		
15)	Fleetguard Filters Private Limited, Pune	Dr Ashok Kumar Vaikuntam (P) Vikas Salunke (A)	N	Y	N	1/3	I
16)	Greaves Cotton Limited (Diesel Engines Unit), Pune	Dr Kaleemuddin Syed (P) Kedar A Kanase (A)	Y	Y	Y	3/3	I
17)	Hero Motocorp Limited, New Delhi	Shri Feroz Ali Khan (A) Shri Rakesh Sharma (P)	Y	Y	N	2/3	I
18)	Honda India Power Products Limited, UP	Tariq Mahmood (P) Rajinder Khurana (A) Dharmendra Kumar (YP)	N	Y	N	1/3	I
19)	India Pistons Limited Perambur, Chennai	Balasubramani K (A)	-	Y	N	1/2	I
20)	Indian Diesel Engine Manufacturers Association, New Delhi	Shri Prashanth Ravi (A) Arvind Ranganathan (P)	Y	Y	N	2/3	I
21)	Indian Institute ofPetroleum, Dehradun	Dr Sunil Kumar Pathak (A) Dr. Devendra Singh (P)	Y	Y	Y	3/3	T
22)	Indian Institute of Technology Delhi, New Delhi	Dr Sudipto Mukherjee (A) Dr S. P. Singh (P)	N	N	N	0/3	T
23)	InternationalCentre for Automotive Technology,Manesar	Vijayanta Ahuja (A) Shri Vaibhav Prashant Yadav (P)	Y	Y	Y	3/3	L
24)	Mahindra and Mahindra Limited, Mumbai	S Sakthivelan (A) Shashikant Nikam (P) Sekar Ganesh (YP)	Y	Y	Y	3/3	I
25)	Maruti Suzuki India Limited, Gurugram	Mr. Gururaj Ravi (P) RAJESH KUMAR (YP) ARUN KUMAR (A)	Y	Y	Y	3/3	I
26)	Ministry of HeavyIndustries & Public Enterprises, New Delhi	R K Jaiswal (P)	N	Y	N	1/3	G
27)	Ministry of RoadTransport & Highways, New Delhi	Shri K C Sharma (A)	N	N	N	0/3	G
28)	MG India Motor (P) Ltd	Vaibhav Utpat (P)	N	N	N	0/3	I
29)	National Small Industries Corporation, Rajkot	U Venkatchalapathi (P) Kamal Kant Sahu (A)	N	N	N	0/3	L
30)	Ordnance Factory Board, Kolata	S.K. Gund (P) Surender Pati (A)	N	N	N	0/3	G

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Attendance			Total	Status
			17th	18th	19th		
31)	Rajkot Engineering Association, Rajkot	Mayur N Shah (P) Abhishek Gondaliya (A)	N	N	N	0/3	I
32)	Shri Ram Pistons And Rings Limited, Ghaziabad	Shri Shankar Brahma (P) Shri Vineet Ahluwalia (A)	Y	N	N	1/3	I
33)	Society of Indian Automobile Manufacturers (SIAM), Delhi	Shri Prashant Kumar Banerjee (P) Dr. Sandeep Garg (A)	Y	Y	N	2/3	I
34)	Tata Motors Limited, Pune	Shri Gowrishankar P. S. (P) Shri Milind J Pagare (P)	Y	Y	Y	3/3	I
35)	Tenneco, Bangaluru	Visesh C Challa (P)	Y	Y	N	2/3	I
36)	Tractor Manufacturers Association, New Delhi	Shri Madhav Bhade (A) Shri Philip Koshi (P)	N	N	Y	1/3	I
37)	U.P. Diesel Engine Manufacturers Association, Agra	Shri Rajesh Garg (P) Manish Doneria (A)	Y	Y	N	2/3	I
38)	Vehicle Research and Development Establishment, Ahmednagar	Shri Rupesh Kumar (P) Shri D.M. Vaidya (P)	N	N	N	0/3	G

Consumer (C)	Govt / Regulator (G)	Industry (I)	Technical / Scientific bodies (T)	Testing Lab (L)	Expert (E)
1	7	24	3	2	1

Technical Committee Composition

1) The composition shall be categorized into Consumer(C), Govt/ Regulator (G), Industry (I), Tech/Scientific bodies (T), Testing Lab (L) and fixed number of members in each category shall be assigned.
2) The balance of representation shall be maintained such that consumer interest shall prevail.
3) Definition of categories of members to be considered for classifying members are as given below:

i) CONSUMERS

Organized Buyers (OB) – Includes government organizations, PSUs andother large industrieswho buy the product for their use as raw material.
Consumer Organizations (CO) – Includes consumer bodies predominantlycomposed of citizens.
Individual Consumers (IC) – Includes consumers not included in abovecategories of consumers.

ii) **GOVERNMENT & REGULATORY BODIES (G)-** To include Govt departments/Ministries/Regulators/Local bodies

iii) **INDUSTRY(I)-**Includes manufacturers (including Government organizations and PSUs into manufacturing business), relevant raw material manufacturers and industry/manufacturer associations, service industry, consultancy firms, etc.

iv) **TECHNICAL/SCIENTIFIC BODIES(T)** – Includes Scientist, technologists, R&D organizations, academic & technical institutions, concerned officer of the Bureau.

v) **TESTING LABORATORIES(L)** – Testing Laboratories/ Organizations.

vi) **EXPERTS (E)**– All persons not included in any of the other categories.

The above defines PSUs and other industries as user in a Technical Committee where they are represented as consumer of a particular raw material/intermediate product. Manufacturer of the raw material has been included as industry.

Annexure – 2

Comments from M/s Shriram Pistons on IS 12025

SHRIRAM REMARKS

1.

3.1 *Piston Diameters* — Shall be measured after soaking the piston at a steady state temperature of ~~20°C~~ 20°C±2°C for at least two hours.

3.1.1 a) *Major diameter* (*d*) — Diameter measured at right angles to gudgeon pin hole axis at any point along piston length.

b) *Minor diameter* (*m*) — Diameter measured parallel to the gudgeon pin hole axis at any point along piston length.

Piston

c) *Skirt profile* — is the diametral changes along the piston axis and can be obtained by moving the dial system vertically from bottom of the skirt to the crown of ~~piston~~. Polar profile can be obtained by rotating the piston about its own axis with the dial system at the desired height. A suitable alternate profile measuring system may also be used.

2.

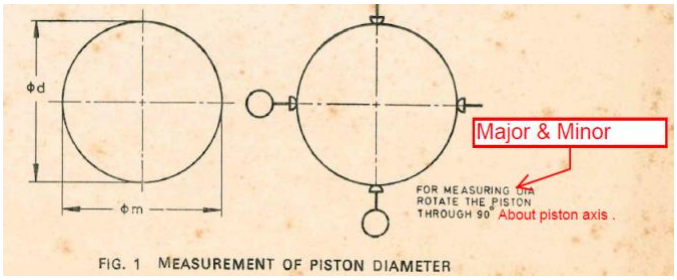


FIG. 1 MEASUREMENT OF PISTON DIAMETER

3.

IS : 12025 - 1987 /Electronic

one fixed & other Floating

3.1.2 For measurements of these diameters (Fig. 1), the piston shall be placed on the horizontal table of the measuring instrument and shall be supported symmetrically against two hardened edges forming a 90°V. A Mechanical comparator with least count 0·001 mm and total range of measurement ~~0·100 mm~~ 1.00 mm minimum shall be mounted on a floating bow mounted in a vertical column rigidly fixed on the measuring table. The plane of measurement may be oriented to pass through the piston axis by shifting the position of the V-shaped edges depending on the piston diameter.

More than one bow assemblies with comparators may be mounted on the vertical column for simultaneous multiple diameter checks.

~~3.1.3 The piston diameter may also be measured by a liquid column air gauge.~~

4.

3.5.2 Ovality shall be measured as described in 3.1.2.

3.6 *Compression Height* (*CH*)

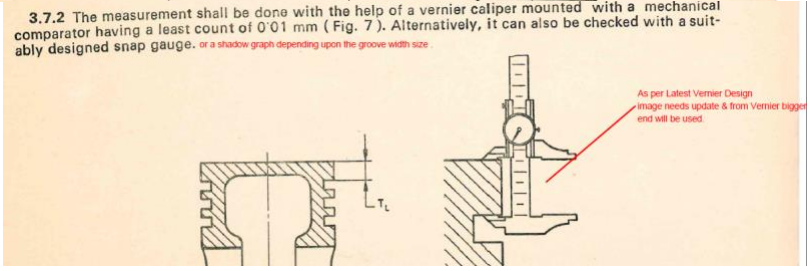
3.6.1 Compression height is the distance between the gudgeon pin hole axis and ~~top most points of the~~ crown of the piston parallel to ~~piston~~ pin bore axis. at two opposite points at location as per design requirement , generally at two opposite farthest points along pin bore axis .

3.6.2 The piston shall be supported in its gudgeon pin hole on a cylindrical mandrel having a dimension of approximately 0·020 mm less than the minimum dimension of pin hole and surface finish 0·5 μm 'CLA' (Fig. 6). The measurement shall be taken with the help of a mechanical comparator having least count of 0·01 mm. or 1/10th of total tolerance limit.

/Electronic

5.

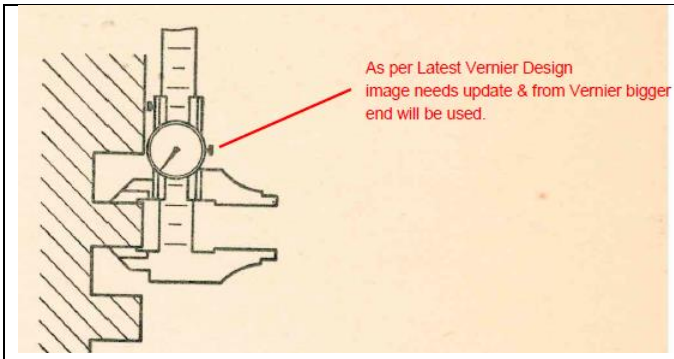
3.7.2 The measurement shall be done with the help of a vernier caliper mounted with a mechanical comparator having a least count of 0·01 mm (Fig. 7). Alternatively, it can also be checked with a suitably designed snap gauge. or a shadow graph depending upon the groove width size .



6.

3.8 ~~*Height of Lands*~~ Land Width

7.



8.

3.8.3 Alternatively, a vertical height gauge may be used for the measurement. (possible for Top Land only depends upon crown geometry)

9.

3.9.2 Crown thickness shall be measured by supporting piston on a flat surface with its crown downwards. A depth gauge fitted with a mechanical comparator having least count of ~~0·1 mm~~ is made to contact the underside of the piston crown at the lowest point (Fig. 9). In case of pistons having special crown shapes, inspection method shall be selected according to requirement.

Alternate method /gauging can be used depends upon the crown design .

or Digital

0.02/0.01 mm respectively .

CT CT CT

10.

3.11 *Gudgeon Pin Hole Diameter (PH)*

SHRIRAM PRACTICE IS NOT BELOW

3.11.1 Gudgeon pin hole diameter is the average of twelve diameter measurements taken over the entire length of the pin hole in two perpendicular planes [*see* IS : 11838-1986 'Recommendations for measurement of quality characteristics of gudgeon pins'].

11.

3.11.3 Diameter at any point shall be measured with the help of a special dial bore gauge having a mechanical comparator with least count 0·001 mm (Fig. 11). Alternatively, the diameter may also be checked with ~~a liquid column~~ an air gauge ~~as outlined in 3.1.3.~~

12.

4. Geometrical Form Tolerance

4.1 *Waviness* — When measured as specified in 5.5 the waviness on the lower side face of the piston ring groove (*see* Fig. 15) shall exceed neither a double sine curve form (Sin 2 θ) nor the following values:

Nominal Cylinder Bore Diameter d_1	*Waviness Tolerance*
Up to ~~150~~ mm 160	0·015 mm
Above ~~150~~ mm 160	0·025 mm

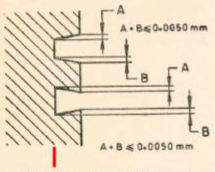
4.2 *Wind (Squareness)* — The wind of groove faces in relation to the machining datum face shall be measured as specified in 5.6 and shall not exceed 0·05 percent of the piston diameter.

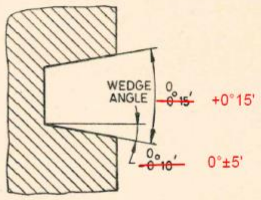
SHRIRAM denotes this parameter as : Groove Plane squareness 0.06/100 mm

7

13.

4.3.1 *Parallel sided grooves* — The sides of grooves shall be measured as specified in 5.7 and shall be parallel within the values shown in Fig. 16.





Two more views 1. both groove flanks upward & 2. both groove flanks downward also possible in this image .

FIG. 16 PARALLEL SIDED RING GROOVE PARALLELISM

FIG. 17 KEYSTONE RING GROOVE ANGULAR TOLERANCE

14.

4.4.2 *Aluminium alloy pistons* — The chatter on sides of ring groove in aluminium alloy pistons shall not exceed the following:

Up to 2 mm nominal width groove	: ~~0·0065 mm~~	0.005 mm /10°
Above 2 mm nominal width groove	: ~~0·0040 mm~~	0.005 mm /20°

15.

4.6.1 The surface texture of finish on the sides of grooves shall be measured radially before surface treatment, if any, and shall not exceed the following: 0.6

Aluminium Alloy Grooves: ~~0·4~~ μm, *Ra*

4.6.2 In the case of armoured ring grooves (or Alfin) where inserts of austenitic iron are cast into an aluminium alloy piston the surface texture on the sides of the grooves shall not exceed ~~2~~ μm *Ra*.

Upper Flank 1.6

Lower Flank 1.0

16.

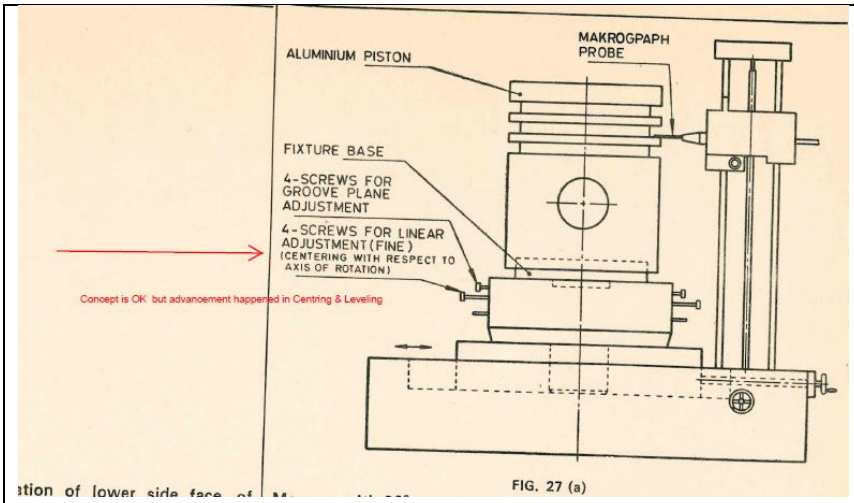


FIG. 27 (a)

17.

FIG. 27 (a)

Measure with 90° cranked anvil spherical probe on lower side face of groove by rotating the piston with the skirt against a V side stop (*see* Fig. 29).

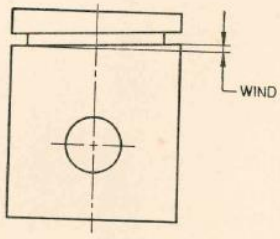


FIG. 28

SHRIRAM PRACTICE :

Groove Flank is rested on one Plane at 0° & 180° and the measurement is taken on the Skirt Outer Diameter with Dial Probe .

Comments Received from M/s Tenneco on IS 12025

Page No.	Section	Feedback
5	3.1	GO and NO-GO gauges cannot be utilized on cast surfaces in the gudgeon pin boss distance measurement. Suitable measurent method to be used for such surfaces.
6	3.11.3	Appropriate measurement technique to measure pin bore profile to be included.
	New	Include the appropriate measurment procedures carried out to ascertain the shape of piston crowns. Bowl volume measurement also can be included.
	New	Measurement method to confirm the position of valve pockets on piston crown.
	New	Measurement method to confirm the position of the cooling gallery.

Annexure-3

REVIEW ANALYSIS OF INDIAN STANDARD

1. **Sectional Committee No. & Title:** TED 2 (Automotive Primemovers, Transmission Systems and Internal Combustion Engine Sectional Committee)
2. **IS No:** IS 8422 : Part 1 : 1977
3. **Title:** Specification for piston rings for IC engines: Part 1 plain compression rings from 30 up to 200 mm nominal diameter R - Rings
4. **Date of review:**
5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
DIN 70910 Piston rings for automotive engineering, R-rings, plain compression rings from 30 up to 200 mm nominal diameter	Standard has been withdrawn	N.A.	Since standard has been withdrawn, assistance reference may be removed from the standard

ii) Status of standards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**
IS 5791:1977 Technical supply conditions for piston rings for internal combustion engines(first revision)	IS 5791 : 2006/ ISO 6621-3:2000 Internal combustion engines - Piston rings - Material specifications (Third Revision)	from this standard Cross reference has been taken for following: tangential values, load factors as per table1, cl.2 of IS 8422 : Part 1 : 1977, general requirements as per cl.4 of IS 8422 : Part 1 : 1977	Cross Reference may be changed to IS 5791 : 2006/ ISO 6621-3:2000

iii) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
ISO 6622-1:2021 Internal combustion engines — Piston rings — Part 1: Rectangular rings made of cast iron	essential dimensional features of rectangular piston rings made of cast iron, types R having nominal diameters up to and including 200 mm, used in IC engines	essential dimensional features of rectangular piston rings made of cast iron, used in IC engines as per ISO 6622-1:2021, may be considered for incorporation in revision
ISO 6622-2:2013 Internal combustion engines — Piston rings — Part 2: Rectangular rings made of steel	essential dimensional features of rectangular piston rings made of steel, types R having nominal diameters from 30 mm up to and including 160 mm, used in IC engines	essential dimensional features of rectangular piston rings made of steel as per ISO 6622-2:2013, may be considered for incorporation in revision
ISO 6621-5:2020 Internal combustion engines — Piston rings — Part 5: Quality requirements	Visible defects, loss of tangential force under temperature effects, raised material caused by marking of piston having nominal diameters from 30 mm up to and including 160 mm, used in IC engines	Visible defects, loss of tangential force under temperature effects, raised material caused by marking requirements or values as per ISO 6621-5:2020, may be considered for incorporation in revision

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
NA	NA	NA	NA

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review	Action proposed

		that is likely to be impacted (Clause & IS No.)	
NA	NA	NA	NA

vi) Issues arising out of changes in any related IS or due to formulation of newIndian Standard

Related IS and its Title (revised or new)	**Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision**	**Changes that may be necessary in the Standards under review**	**Action proposed**
NA	NA	NA	NA

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	**Requirements to be impacted**
NA	NA

6. Any other observation:

The revision will essentially take care of the following:

a) Updating the dimensional features, tangential, diametrical loads values of rectangular piston rings made of cast iron and steel as per ISO 6622-2:2013, ISO 6622-1:2021
b) Updating the details of material classification & specifications as per the latestcross-referred standard IS 5791:2006/ ISO 6621-3:2000
c) Inclusion of optional requirements as per ISO 6622-2:2013, ISO 6622-1:2021
d) Inclusion of informative requirements as per ISO 6621-5:2020
e) Other Editorial Modifications

7. Recommendations:

In view of above, it is recommended that IS 8422 (Part 1): 1977 may be revised incorporating the above-mentioned changes and other changes as deemed fit by the committee.

Annexure-4

REVIEW ANALYSIS OF INDIAN STANDARD

1. **Sectional Committee No. & Title:** TED 02 (Automotive Primemovers, Transmission Systems and Internal Combustion Engine Sectional Committee)
2. **IS No:** IS 8422 (Part 2) : 1977
3. **Title:** Specification for piston rings for IC engines: Part 2 taper faced compression rings from 30 up to 200 mm nominal diameter M - Rings
4. **Date of review:** 28.03.2023
5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	Whether the standard has since been revised	Major changes	Action proposed
DIN 70911 Piston rings for automotive engineering, M-rings, taper faced compression rings from 30 up to 200 mm nominal diameter	Standard has been withdrawn and superseded by ISO 6622-1	N.A.	Since standard has been withdrawn, assistance reference may be removed from the standard

ii) Status of standards referred in the IS

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed
IS 5791:1977 Technical supply conditions for piston rings for internal combustion engines(first revision)	IS 5791 : 2006/ ISO 6621-3:2000 Internal combustion engines - Piston rings - Material specifications (Third Revision)	from this standard, reference has been taken for following: tangential values, load factors as per Table 1, cl.2 of IS 8422 (Part 2): 1977, general requirements as per cl.4 of IS 8422 (Part 2) : 1977	Reference may be changed to IS 5791 : 2006/ ISO 6621-3:2000

iii) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed

ISO 6622-1:2021 Internal combustion engines — Piston rings — Part 1: Rectangular rings made of cast iron	essential dimensional features of rectangular piston rings made of cast iron, type M having diameters up to and including 200 mm, used in IC engines	essential dimensional features of rectangular piston rings made of cast iron, type M having diameters up to and including 200 mm, used in IC engines as per ISO 6622-1:2021, may be considered for incorporation in revision
ISO 6622-2:2013 Internal combustion engines — Piston rings — Part 2: Rectangular rings made of steel	essential dimensional features of rectangular piston rings made of steel, type R having nominal diameters from 30 mm up to and including 160 mm, used in IC engines	essential dimensional features of rectangular piston rings made of steel, type R having nominal diameters from 30 mm up to and including 160 mm as per ISO 6622-2:2013, may be considered for incorporation in revision
ISO 6621-5:2020 Internal combustion engines — Piston rings — Part 5: Quality requirements	Visible defects, loss of tangential force under temperature effects, raised material caused by marking of piston having nominal diameters from 30 mm up to and including 200 mm, used in IC engines	Visible defects, loss of tangential force under temperature effects, raised material caused by marking requirements or values as per ISO 6621-5:2020, may be considered for incorporation in revision

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed

vi) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted

6. Any other observation:

The revision will essentially take care of the following:

a) Updating the dimensional features, tangential, diametrical loads values of rectangular piston rings made of cast iron and steel as per ISO 6622-1:2021 and ISO 6622-2:2013 respectively
b) Updating the details of material classification & specifications as per the latest referred standard IS 5791:2006/ ISO 6621-3:2000
c) Inclusion of optional requirements as per ISO 6622-2:2013, ISO 6622-1:2021
d) Inclusion of informative requirements as per ISO 6621-5:2020
e) Other Editorial Modifications

7. Recommendations:

In view of above, it is recommended that IS 8422 (Part 2): 1977 may be revised incorporating the above-mentioned changes and other changes as deemed fit by the Committee.

Annexure-5

REVIEW ANALYSIS OF INDIAN STANDARD

8. **Sectional Committee No. & Title:** TED 02 (Automotive Primemovers, Transmission Systems and Internal Combustion Engine Sectional Committee)
9. **IS No:** IS 8422 (Part 3) : 1977
10. **Title:** Specification for piston rings for IC engines: Part 3 keystone rings from 82 up to 200 mm nominal diameter T - Rings 15°
11. **Date of review:** 28.03.2023
12. **Review Analysis**

viii) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	Whether the standard has since been revised	Major changes	Action proposed
DIN 70914 Piston rings for automotive engineering, T - Rings 15°, keystone rings 15° from 82 up to 200 mm nominal diameter	Standard has been withdrawn and superseded by ISO 6624-1	N.A.	Since standard has been withdrawn, assistance reference may be removed from the standard

ix) Status of standards referred in the IS

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed
IS 5791:1977 Technical supply conditions for piston rings for internal combustion engines (first revision)	IS 5791 : 2006/ ISO 6621-3:2000 Internal combustion engines - Piston rings - Material specifications (Third Revision)	from this standard, reference has been taken for following: tangential values, load factors as per Table 1, cl.2 of IS 8422 (Part 3): 1977, general requirements as per cl.4 of IS 8422 (Part 3) : 1977	Reference may be changed to IS 5791 : 2006/ ISO 6621-3:2000

x) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
ISO 6624-1: 2017 Internal	essential dimensional features of keystone rings 15° made of cast	essential dimensional features of keystone rings 15° made of

combustion engines— Piston rings Part 1: Keystone rings made of cast iron	iron, types K, KB, KBA and KM, having diameters from 70 mm up to and including 200 mm, used in reciprocating internal combustion piston engines	cast iron, types K, KB, KBA and KM, having diameters from 70 mm up to and including 200 mm, used in reciprocating internal combustion piston engines as per ISO 6624-1 : 2017, may be considered for incorporation in revision
ISO 6624-3:2017 Internal combustion engines — Piston rings — Part 3: Keystone rings made of steel	essential dimensional features of keystone rings made of steel, types K, KB, KBA and KM, having diameters from 70 mm up to and including 160 mm, used in reciprocating internal combustion piston engines	essential dimensional features of keystone rings made of steel, types K, KB, KBA and KM, having diameters from 70 mm up to and including 160 mm, used in reciprocating internal combustion piston engines as per ISO 6624-3:2017, may be considered for incorporation in revision
ISO 6621-5:2020 Internal combustion engines — Piston rings — Part 5: Quality requirements	Visible defects, loss of tangential force under temperature effects, raised material caused by marking of piston having nominal diameters from 30 mm up to and including 200 mm, used in IC engines	Visible defects, loss of tangential force under temperature effects, raised material caused by marking requirements or values as per ISO 6621-5:2020, may be considered for incorporation in revision

xi) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed

xii) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed

xiii) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed

xiv) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted

13. Any other observation:

The revision will essentially take care of the following:

f) Updating the dimensional features, tangential, diametrical loads values of keystone rings 15° made of cast iron and steel as per ISO 6624-1: 2017 and ISO 6624-3:2017 respectively

g) Updating the details of material classification & specifications as per the latest referred standard IS 5791:2006/ ISO 6621-3:2000

h) Inclusion of optional requirements as per ISO 6624-3:2017, ISO 6624-1: 2017

i) Inclusion of informative requirements as per ISO 6621-5:2020

j) Other Editorial Modifications

k) Keeping in view of the nomenclature, 'types K, KB, KBA and KM' pertain to Keystone rings 15° as per ISO 6624-1: 2017 & ISO 6624-3: 2017, Title of the standard in English may be replaced with 'SPECIFICATION FOR PISTON RINGS FOR IC ENGINES PART III KEYSTONE RINGS 15° FROM 82 UP TO 200 MM NOMINAL DIAMETER'

l) Updating the types of rings to 'Type K, KB, KBA, KM'

14. Recommendations:

In view of above, it is recommended that IS 8422 (Part 3): 1977 may be revised incorporating the above-mentioned changes and other changes as deemed fit by the Committee.

Annexure-6

ITEM 10 ACTION RESEARCH PROJECT REPORT ON IS 8422 PART 4: 1977

(NAPIER OIL SCRAPER RINGS FROM 30 UP TO 200 MM NOMINAL DIAMETER N-RINGS)

मानकः पथप्रदर्शकः

SUBMITTED BY:

A.P.D. DWIVEDI
SCIENTIST-F &
HEAD
WESTERN REGIONAL LABORATORY
MUMBAI

REVIEW ANALYSIS OF INDIAN STANDARD

1. **Sectional Committee No. & Title:** TED 02 (Automotive Prime movers, Transmission Systems and Internal Combustion Engine Sectional Committee)

2. **IS No:** IS 8422 Part IV:1977

3. **Title:** Napier Oil Scraper Rings From 30 Up To 200 mm Nominal Diameter N-Rings

4. **Date of review:** 08 December 2022

5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
DIN 70930 'Piston rings for automotive engineering, N-rings, oil-scraper rings from 30 up to 200 mm nominal diameter', issued by DIN Deutsches lnstitut fiir Normung.	DIN 70930 has been withdrawn and got superseded by ISO 6623:186 which later on got revised as ISO 6623:2013	NA	NA

ii) Status of standards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**
IS : 5791:1977	IS : 5791:2006 is the latest version of the standard.	In this revision, the following technical changes have been incorporated: a) Table of Typical materials for piston rings had been modified. b) Hardness in terms of Vickers, Rockwell and Brinell is given for respective materials. c) Combinations of Typical modulus of elasticity and Bending strength is extended. d) Typical applications for respective categories have been provided. The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations	Please see recommendation

iii) Any other standards available related to the subject & scope of the standard being reviewed(International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
ISO 6623:2013 Internal combustion engines — Piston rings — Scraper rings made of cast iron	ISO 6623:2013 specifies the essential dimensional features of scraper rings made of cast iron, types N, NM, E, and EM, having diameters from 30 mm up to and including 200 mm, used in reciprocating internal combustion engines for road vehicles and other applications.	Adoption of ISO 6623 in toto may be looked into.

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
Interaction with industry experts and visit to M/s Sriram Pistons Limited, Ghaziabad on 15.11.2022	General	During the interaction it was found that all the manufacturing and testing of Piston Rings in the country is done on the basis of ISO standards in order to align the same with international practice.	ISO standards on piston rings (as per the list provided at point no. vii) may be adopted to align the Indian Standards on the product with latest international practices

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	**Development**	**Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)**	**Action proposed**
UN Sustainable Development Goals (SDG 9)	SDG 9 emphasizes on Industry, Innovation and Infrastructure as a goal for sustainable development	Clause 4 of IS 8422 Part IV:1977	Clause 4 may additionally have the provision to choose among innovative practices in Material selections and Manufacturing process

vi) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	**Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision**	**Changes that may be necessary in the Standards under review**	**Action proposed**
No action is required			

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted

The series of ISO standards may be adopted in place of related Indian Standards on the subject in order to align the manufacturing and testing practices with international standards-

[1] ISO 6621-1, internal combustion engines - Piston rings - Part I: Vocabulary.

[2] ISO 6621-2, internal combustion engines - Piston rings - Part 2: Inspection measuring principles.

[3] ISO 6621-4, internal combustion engines - Piston rings - Part 4: Genera/specifications.

[4] ISO 6621-5, Internal combustion engines - Piston rings - Part 5: Quality' requirements.

[5] ISO 6622-1 Internal combustion engines - Piston rings - Part 1: Rectangular rings made of cast

[6] ISO 6622-2, internal combustion engines - Piston rings - Part 2: Rectangular rings with narrow ring width.

[7] ISO 6623, internal combustion engines - Piston rings - Scraper rings made of cast iron.

[8] ISO 6624-1 Internal combustion engines - Piston rings - Part I: Keystone rings made of cast iron.

[9] ISO 6624-2, Internal combustion engines - Piston rings - Part 2: Halt keystone rings

[10] ISO 6624-3, internal combustion engines - Piston rings - Part 3: Keystone rings made of steel.

[11) ISO 6624-4, Internal combustion engines - Piston rings - Part 4: Half keystone rings made of steel.

[12] ISO 6625:1986, Internal combustion engines - Piston rings - Oil control rings.

[13] ISO 6626:1989, Internal combustion engines - Piston rings - Coilspring-loaded oil control rings.

[14] ISO 6626-2, internal combustion engines - Piston rings - Part 2: Coil-spring-loaded oil control rings of narrow width made of cast iron.

[15] ISO 6627, Internal combustion engines - Piston rings - Expander/segment oil-control rings.

6. **Any other observation:** Series of ISO standards related to piston rings may be adopted as detailed in para 5 (vii)

7. **Recommendations:** Based on above findings, it is recommended to adopt latest version of ISO 6623 in place of IS 8422 Part IV: 1977.

Annexure-7

ITEM 11 ACTION RESEARCH PROJECT REPORT

ON

IS 8422 PART 5: 1977

(Specification for piston rings for IC engines: Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter Z - Rings)

11.1 SUBMITTED BY:

A.P.D. DWIVEDI
SCIENTIST-F & HEAD
WESTERN REGIONAL LABORATORY
MUMBAI

REVIEW ANALYSIS OF INDIAN STANDARD

1. **Sectional Committee No. &Title:** TED 02 (Automotive Prime movers, Transmission Systems and Internal Combustion Engine Sectional Committee)

2. **IS No:**IS 8422 Part V:1977

3. **Title:**Specification for piston rings for IC engines: Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter Z - Rings

4. **Date of review:**28.12.2022

5. Review Analysis

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
Draft British Standard Specification of piston rings up to 200 mm diameter for internal combustion engines : Part I Single piece designs, dimensions, materials and designations', issued by the British Standards Institution.	BS 5341-1 has been finalized from the draft standard.	NA	Please see recommendation

ii) Status ofstandards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**

IS : 5791:1977	IS : 5791:2006 is the latest version of the standard.	In this revision, the following technical changes have been incorporated: a) Table of Typical materials for piston rings had been modified. b) Hardness in terms of Vickers, Rockwell and Brinell is given for respective materials. c) Combinations of Typical modulus of elasticity and Bending strength is extended. d) Typical applications for respective categories have been provided. The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations	The current version of IS 5791 as an adoption of ISO 6621 Part 3 may be incorporated by adopting ISO 6623 in place of IS 8422 part 5:1977

iii) Any other standards available related to the subject& scope of the standard being reviewed(International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	**Provisions that could be relevant while reviewing the IS**	**Action proposed**
ISO 6623:2013 Internal combustion engines — Piston rings — Scraper rings made of cast iron	ISO 6623:2013 specifies the essential dimensional features of scraper rings made of cast iron	Please see recommendation, Adoption of ISO 6623 in may be looked into in place of IS 8422 part 5:1977

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
Interaction with industry experts and visit to M/s Sriram Pistons Limited, Ghaziabad on 15.11.2022	General	During the interaction it was found that all the manufacturing and testing of Piston Rings in the country is done on the basis of ISO standards in order to align the same with international practice.	ISO standards on piston rings (as per the list provided at point no. vii) may be adopted to align the Indian Standards on the product with latest international practices

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
UN Sustainable Development Goals (SDG 9)	SDG 9 emphasizes on Industry, Innovation and Infrastructure as a goal for sustainable development	Clause 4 of IS 8422 Part V:1977	Ad may additionally have the provision to choose among innovative practices in Material selections and Manufacturing process

vi) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under reviewthat would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed

No action is required

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted
The series of ISO standards may be adopted in place of related Indian Standards on the subject in order to align the manufacturing and testing practices with international standards- [1] ISO 6621-1, internal combustion engines - Piston rings - Part I: Vocabulary. [2] ISO 6621-2, internal combustion engines - Piston rings - Part 2: Inspection measuring principles. [3] ISO 6621-4, internal combustion engines - Piston rings - Part 4: Genera/ specifications. [4] ISO 6621-5, Internal combustion engines - Piston rings - Part 5: Quality' requirements. [5] ISO 6622-1Internal combustion engines - Piston rings - Part 1: Rectangular rings made of cast [6] ISO 6622-2, internal combustion engines - Piston rings - Part 2: Rectangular rings with narrow ring width. [7] ISO 6623, internal combustion engines - Piston rings - Scraper rings made of cast iron. [8] ISO 6624-1Internal combustion engines - Piston rings - Part I: Keystone rings made of cast iron. [9] ISO 6624-2, Internal combustion engines - Piston rings - Part 2: Halt keystone rings [10] ISO 6624-3, internal combustion engines - Piston rings - Part 3: Keystone rings made of steel. [11) ISO 6624-4, Internal combustion engines - Piston rings - Part 4: Half keystone rings made of steel. [12] ISO 6625:1986, Internal combustion engines - Piston rings - Oil control rings. [13] ISO 6626:1989, Internal combustion engines - Piston rings - Coilspring-loaded oil control rings.	

[14] ISO 6626-2, internal combustion engines - Piston rings - Part 2: Coil-spring-loaded oil control rings of narrow width made of cast iron.

[15] ISO 6627, Internal combustion engines - Piston rings - Expander/segment oil-control rings.

1. **Any other observation:** Series of ISO standards related to piston rings may be adopted as detailed in para 5 (vii)

2. **Recommendations:** Based on above findings, it is recommended to adopt latest version of ISO 6623 in place of IS 8422 Part V: 1977.

Annexure – 8

REVIEW ANALYSIS OF INDIAN STANDARD

1. **Sectional Committee No. & Title: TED 2 (Specification For Radiator Hose)**
2. **IS No: IS : 2765 – 1982 reaffirm in 2020**
3. **Title: Specification For Radiator Hose (Third Revision)**
4. **Date of review:**
5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
ISO/DIN 4081 'Rubber tubing and hose coolant type, for use in cars and light commercial vehicles'	**Yes**	**Cross referred standards has been updated**	**Nil**

ii) Status of standards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**
IS 7503	**IS 7503 : 2018 ISO 1382:2012**	**Adoption of ISO Standards**	**NA in view of recommendation for adoption of ISO 4081**
IS 443	**IS443:Part1 to Part 6/**	**Adoption of ISO Standards**	**NA in view of recommendation for adoption of ISO 4081**
IS 3400:Part 2:1980	**IS 3400 : Part 2:2014/ ISO 48 : 2010**	**Adoption of ISO Standards**	**NA in view of recommendation for adoption of ISO 4081**

iii) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
ISO 4081:2016	All Provisions	Requirement of Low-temperature flexibility , Resistance to collapse, Resistance to kinking, Resistance to dilation, resistance to electrochemical degradation may be added subjected to requirement as per Indian manufacturer and consumer

iv) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
NIL			

v) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
ISO standards	Reinforcement and branching of hose pipe	4.1	Recent development may be added in current standard

vi) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed
Nil			

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted
NIL	

6. Any other observation: - NA

7. Recommendations: Earlier standards were published in 1982 since then a lot of

technological advancement happened in field of hose pipe. All Test Method standards cross referred in IS 2765 have already adopted respective ISO standards. Therefore ISO 4081 may be adopted

(Prabhu Nath Yadav)

Scientist-D/Joint

Director

Annexure-9

REVIEW ANALYSIS OF INDIAN STANDARD
(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:**
   TED 02 (Automotive Prime movers, Transmission Systems and Internal Combustion Engine Sectional Committee)
2. **IS No:** IS 6750: 1985
3. **Title in English:** Specification for cylinder liners for internal combustion engines
4. **Date of review:** 20.04.2023

5. **Review Analysis**

i) **Amendment to be incorporated, if any:**

ii) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	Whether the standard has since been revised	Major changes	Action proposed
NA as No assistance has been taken from any standard			

iii) Status of standards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**
IS : 3073-1967 Assessment of surface roughness	IS : 3073-1967 Assessment of surface roughness	No action need as standard has been generally referred	No change proposed.
IS : 1500-1983 Method for Brinell hardness test for "metallic materials"	IS 1500 (Part 1) : 2019 Metallic materials - Brinell hardness test: Part 1 test method	This Indian Standard is published in four parts. The fifth revision of this standards covers test methods, Verification and calibration of testing machines, Calibration of	Reference may be changed to IS 1500 (Part 1) : 2019

		reference blocks and Table of hardness values. Part 1 specifies the method for the Brinell hardness test for metallic materials.	
IS : 1586-1968 'Method s for Rockwell hardness test (B and C scale s) for steel (first revision)	IS 1586 (Part 1): 2018 Metallic materials - Rockwell hardness test:	The third revision of this standard covers the method for Rockwell regular and Rockwell superficial hardness tests for scales A, B, C,	Reference should be changed to IS 1586 (Part 1): 2018

	Part 1 test method (Fifth Revision)	D, E, F, G, H, K, 15N, 30N, 45N, 15T, 30T, and 45T for metallic materials and is applicable to stationary and portable hardness testing machines.	

iv) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
NA		

v) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
NIL			

vi) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
Internet & Research papers available in public domain	There are several different types of cylinder liners used in engines, including: **Cast iron liners**: These are the most common type of cylinder liners and are made from gray cast iron. They have good wear	Clause 3, Material	Committee may consider the developments

	resistance, heat dissipation, and are relatively inexpensive. **Nikasil liners**: Nikasil is a trademarked name for a nickel-silicon carbide coating that is applied to the cylinder bore. It provides excellent wear resistance and reduces friction, which can improve engine performance and fuel efficiency. However, it is more expensive than cast iron liners. **Steel liners**: Steel liners are made from high-strength steel and are often used in high-performance		

	engines. They have excellent heat dissipation properties, which can help prevent engine overheating. However, they are more expensive than cast iron liners. **Ceramic liners**: Ceramic liners are made from advanced ceramics that have excellent wear resistance and heat dissipation properties. They are used primarily in high-performance engines that operate at high temperatures and pressures. The choice of cylinder liner material depends on the specific		

	application and requirements of the engine.		
NIL			

vii) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed

NA

viii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted
NA	

(1) Any other observation:

The revision will essentially take care of the following:

i). Introduction of Clause 2 ‘References’ (as per the latest format), and accordingly renumbering of all subsequent clauses.

ii). Updating the details of types/classes/grades/ratings, etc. as per the latest cross-referred standards.

iii). Use of latest style, manner and wordings, etc. such as ‘Annex’ for ‘Appendix’.

(2) **Recommendations:** In view of above, it is recommended that IS 6750: 1985 may be revised to incorporate the above-mentioned changes and other changes as deemed fit by the committee.

Annexure – 10

REVIEW ANALYSIS OF INDIAN STANDARD
(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:**
   TED 02 (Automotive Prime movers, Transmission Systems and Internal Combustion Engine Sectional Committee)
2. **IS No:** IS 6740: 1985

3. **Title in English:** Specification for gudgeon pins for internal combustion engines (First Revision)
4. **Title in Hindi:** आंतरिक दहन इंजनों के लिए गजन पिन के लिए विशिष्टता (पहला संशोधन)

5. **Date of review:** 20.04.2023

6. Review Analysis

i) **Amendment to be incorporated, if any:**

ii) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No. & Title)	Whether the standard has since been revised	Major changes	Action proposed
NA as No assistance has been taken from any standard			

iii) Status of standards referred in the IS

Referred standards (No. & Title)	**IS No. of this standards since revised**	**Changes that are of affecting the standard under review**	**Action proposed**
IS: 1570 (Part 2) - 1979 'Schedule for wrought steels for general engineering purposes, Part 2	IS 1570 (Part 2/Sec 2): 1987 Schedules for wrought steels: Part 2 carbon steels Unalloyed	IS: 1570 (Part 2) - 1979 has been published in two sections. Sec 1 of this standard covers the wrought products (Other Than Wires) with	References may be changed to IS 1570 (Part 2/Sec 2): 1987

Carbon steels (unalloyed steels)	Steels): Sec 2 carbon steel wires with related properties (First Revision)	specified chemical composition and related properties. This standard was first published in 1979. The revision of this standard has been updated based on present usage.	
IS: 4432-1967 Case hardening steels	IS 4432 : 1988 Reviewed In : 2019 Specification for case hardening steels (First Revision)	Covers the technical delivery requirements for wrought low carbon unalloyed and alloyed steel bars, billets, rods and finished forgings for case-hardening.	Reference may be changed to IS 4432: 1988

IS : 1586-1968 'Methods for Rockwell hardness test (B and C scale s) for steel	IS 1586 (Part 1): 2018 Metallic materials - Rockwell hardness test: Part 1 test method (Fifth Revision)	The third revision of this standard covers the method for Rockwell regular and Rockwell superficial hardness tests for scales A, B, C, D, E, F, G, H, K, 15N, 30N, 45N, 15T, 30T, and 45T for metallic materials and is applicable to stationary and portable hardness testing machines.	Reference should be changed to IS 1586 (Part 1): 2018

iv) Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
NA		

v) Technical comments on the standard received, if any

Source	Clause of IS	Comment	Action proposed
NIL			

vi) Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

Source	Development	Relevant clause of the IS under review that is likely to be impacted	Action proposed

		(Clause & IS No.)	
Internet and research papers	Gudgeon pins, also known as piston pins or wrist pins, are critical components in internal combustion engines that connect the piston to the connecting rod. They play a crucial role in transferring the force from the piston to the crankshaft, while also allowing the piston to pivot and reciprocate smoothly. The materials used for manufacturing gudgeon pins need to exhibit high strength, wear resistance, and	Clause 2 Material	The committee may check for the relevance of these material and may incorporate in the revision of

	durability to withstand the demanding operating conditions of an engine. Several materials can be used for manufacturing gudgeon pins, including: (1) Steel: Steel is a common material used for manufacturing gudgeon pins due to its excellent mechanical properties, such as high strength and durability. Typically, high-		the standard.

		quality alloy steels, such as 8620, 9310, or 52100, are used for gudgeon pin manufacturing. These steels are heat-treated to achieve the desired hardness and wear resistance, while also maintaining sufficient toughness to withstand the dynamic loads and high temperatures in the engine. Steel gudgeon pins are known for their robustness and ability to withstand		

		heavy loads and high RPMs, making them suitable for high-performance engines. (2) Aluminum: Aluminum gudgeon pins are lighter in weight compared to steel, which can help reduce the overall weight of the engine and improve fuel efficiency. Aluminum alloy gudgeon pins are typically made from high-strength aluminum alloys, such as 2024, 7075, or 6061, which are known		

		for their high strength-to-weight ratio. These alloys are heat-treated to enhance their strength and wear resistance, and may also be coated with materials like hard anodizing or DLC (Diamond-Like Carbon) to further improve their surface hardness and durability. Aluminum gudgeon pins are commonly used in small engines, motorcycle engines, and racing engines		

		where weight reduction is a critical factor. (3) Titanium: Titanium gudgeon pins are known for their exceptional strength-to-weight ratio, high temperature resistance, and excellent corrosion resistance. Titanium gudgeon pins are typically made from high-grade titanium alloys, such as Ti-6Al-4V, which offer high strength and good		

	machinability. Titanium gudgeon pins are popular in high-performance racing engines and aerospace applications, where weight reduction and high strength are crucial factors. The choice of material for gudgeon pins depends on various factors, such as engine type, application, performance requirements, and cost considerations.		
NIL			

vii) Issues arising out of changes in any related IS or due to formulation of new Indian Standard

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed
NA			

viii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted
NA	

(4) Any other observation:

The revision will essentially take care of the following:

i). Introduction of Clause 2 ‘References’ (as per the latest format), and accordingly renumbering of all subsequent clauses.

ii). Updating the details of types/classes/grades/ratings, etc. as per the latest cross-referred standards.

iii). Use of latest style, manner and wordings, etc. such as ‘Annex’ for ‘Appendix’.

(5) **Recommendations:** In view of above, it is recommended that IS 6740: 1985 may be revised to incorporate the above-mentioned changes and other changes as deemed fit by the committee.

SO

ISO/TC 22/SC 34 N 869

Annexure – 11

ISO/TC 22/SC 34 "Propulsion, powertrain and powertrain fluids" Secretariat: **ANSI**
Committee manager: **Light Jana Ms.**

ISO TC 22/ SC 34 Revised Notice of Meeting Draft Agenda 2023-10-13

Document type	Related content	Document date	Expected action
Meeting /Agenda Meeting:	Troy (United States) 13_002023-a6-20 2023		

Replaces: N 861 ISO TC 22/ SC 34 Notice of Meeting/Draft Agenda for Plena!), Meeting_2023-10-13

ISO

International Organization for Standardization
Organisation Internationale de normalisation
Mew.AyFiapooam oprami3aLiv11 no craivap m3auilim

NOTICE OF MEETING 1 DRAFT AGENDA

Date 2023.06.20	**Reference** ISOITC 22 SC 34 **N 869**
Number and title of *TCINurnero et titre du* TC **ISO TC 22 SC 34 Vehicle propulsion, powertrain and powertrain fluids**	
SecretariatiSecretariat **ANSI**	***MeetinglReunion*** **Meeting** dates *I Dates de la reunion:* **13 October 2023**
Hostiinvitant SAE International	**Place/Lieu** AddressiAdresse: 755 W. Big Beaver Rd., Ste. 1600, Troy, Michigan, USA 48084 Tel: 1-248-273-2455

P-and 0-members are invited to inform the secretariat of the committee concerned, within one month of the receipt of this notice of meeting, of their intention to be represented at the meeting, the approximate number of their delegates and their need for interpretation.

Whenever possible, the names of delegates (or observers) and the name of the head of the delegation should also be sent to the secretariat of the committee concerned at least one month before the opening of the meeting.

Parallel Meeting(s) l Reunion(s) parallele(s)

The plan is for the Working Groups to meet in conjunction with the Plenary meeting. The Working Group meeting schedule is still being worked on.

Group	Date	Time
WG 1	**This WG will not be meeting in conjunction with the Plenary meeting**	
WG 2	**TBD**	**TBD**
WG 3	**TBD**	**TBD**
WG 4	**TBD**	**TBD**
WG 5	**This WG will not be meeting in conjunction with the Plenary meeting_**	
WG 6	**TBD**	**TBD**
WG 9	**TBD**	**TBD**
WG 11	**2023-10-12**	**1:00pm to 4 :30pm EDT**
WG 14	**This WG will not be meeting in conjunction with the Plenary meeting**	
WG 17	**TBD**	**TBD**
SC 34 Plenary	**2023 October 13**	**8:30am to 4:30pm EDT**

1. Opening of the meeting (8:30am EDT)
2. Roll call of delegates
3. New ISO Code of Ethics and Conduct **Direct Link: Code of Ethics and Conduct**
4. Adoption of the agenda (N869)
5. Appointment of the drafting committee
6. Approval of the last meeting report (N828)
7. Report of the Committee Manager (Nxxx)
8. Confirmation for SC 34 organization - Reappointment of Convenor for WG 1 (Mr. Eric Quillen) - Appointment of New Convenor for WG 2 - Reappointment of Convenor for WG 3 (Ms. Birgit Renz) - Reappointment of Convenor for WG 5 (Mr. Daniel Glassford) - Reappointment of Convenor for WG 11 (Mr. Bryan Steffen) - Reappointment of Convenor for WG 14 (Mr. Peter Schupp) - Reappointment of Convenor for WG 17 (Dr. Markus Rochowicz) - New WG 9 Convenor (Mr. Bartek Lemm)
9. Report of Working Groups on: - Work programme - Time schedule - Change of Target dates? - WG resolutions to be endorsed
9.1 WG1 Fuel Filters (Nxxx*) - Mr. Eric Quillen
9.2 WG2 Injection Equipment (Nxxx*) - Mr. Neil Wilson
9.3 WG3 Air Filters (Nxxx*) - Ms. Birgit Renz
9.4 WG4 Piston Rings (Nxxx*) - Mr. Andreas Seel
9.5 WG5 Engine Test Code (Nxxx*) - Mr. Daniel Glassford

9.6 **WG 6 Water Injection (Nxxx*) - Mr. Joel Op de Beeck**
9.7 **WG 9 Piston Pins (Nxxx*) - Mr. Bartek Lemm**
9.8 **WG 11 Filtration Performance of Closed Crankcase Ventilation Systems (Nxxx*) - Mr. Bryan Steffen**
9.9 **WG 14 NOx Reduction Additive (Nxxx*) - Mr. Peter Schupp**
9.10 WG 17 Cleanliness of Components (Nxxx*) - Dr. Markus Rochowicz
10. Follow-up of work - Confirmation or withdrawal of items on which no progress has been made — Status and action to be taken - SR of ISO Standards — Standards involved and decision to be made
11. Items for future work
12. Any other Business - Opening NWIs - ISO Project Portal for WG Convenors - ISO Meetings website for WG Convenors
13. Next Meeting - 2024 TBD
14. Approval of resolutions
15. Closure of the meeting (4:30pm EDT)

***To be circulated**

Annexure – 12

KUMARAGURUBARAN S B
Email-id:
sbkumaragurubaran@hotmail.com Mobile
No: +919677578293

Profile Summary

- A Mechanical Engineer with high disciplined leadership skills having Master of Engineering in Thermal Engineering.
- Pursue organizational Goals with Team Work.
- Ability to learn new Methodologies & Technologies which can improve our organization.

Experience

- Development Manager in **SAMYAK MOTORS PRIVATE LIMITED** (Feb 2017-Present) Coimbatore. 100% Indigenous Power Tiller Manufacturer in India.
- 1 Year 6 month experienced as Technical Incharge in **SAMYAK MOTORS PRIVATE LIMITED** (Aug 2015 to Jan 2017) Coimbatore.
- One year experienced as Lecturer, Department of Mechanical Engineering**, KONGU POLYTECHNIC COLLEGE** (2012-2013), Perundurai. (An NBA Accredited and ISO Certified Institution).

Roles and Responsibilities

SAMYAK MOTORS PVT LTD

- Homologation execution with Farm Machinery Training & Testing Institute (SRFMTTI) & Govt
  Testing Agencies (Icat- Gurgaon , ARAI - Pune)
- Coordinating and executing validation tests IS 13539:2008 (Selected Performance test for Power Tiller), IS 9935:2002 (Power Tiller Test Code), IS 12239-1998 (Guide for Safety and operation for power tiller) at SRFMTTI - Anantapur.
- Responsible to develop proto type power tiller as per CMVR / TAP / 115 / 116.
- Homologation execution of IS 7347 for Small Size Spark ignition engine at NSIC- Rajkot.
- Working with third party consultants and professionals for Product Development and Homologation Activities.
- Coordinating with overseas manager and technicians for new product testing and business developments.
- Responsible for creating DVP plan and TQM Plan chart for Continuous quality improvements.
- Responsible for developing vendors for long term business.
- Coordinating with OEM supplier for obtaining CMVR certifications from Government testing agencies

Developments

- Established In-House Engine Testing lab at Samyak Motors Pvt Ltd with 15KW Eddy current Dynamometer.
- Developed Plunger Type Fuel Injection pump unit for 10.5 kW Horizontal Diesel Engine from USHA Internationals, Hyderabad.
- Developed Integrated Camshaft with fuel cam for Trem III-A emission norms at SAC Engine Components, Chennai.
- Developed Piston & Rings for Trem III-A Emission norms at Menon Pistons Kolhapur.

- Developed a seating system for power tiller with electric start as approved by Government Testing institute SRFMTTI.

Achievements

- Successfully completed ICT Test for Indigenous Power Tiller Model SAMYAK ST960, at **SRFMTTI (Govt of India) Anantapur**, Andhra Pradesh. Report No: PT-103/751
- Successfully completed Vehicle Type Approval test and Engine Type Approval test for Indigenous Single Cylinder Horizontal Diesel Engine SE12DI, at **ICAT, Gurgaon**, for Trem III Emission norms.
- Successfully obtained operative license for Manufacturing Small Size spark ignition Engine from BIS Coimbatore as per IS 7347.
- Won "The Trouble Shooter 2018" award from Samyak Motors Private Limited for solution providing skills.

Academics

- SSLC from AET Matriculation Higher Secondary School (2006), Erode

Result – 65%

- Diploma in Mechanical Engineering from Kongu Polytechnic College (2009), Perundurai

Result – 67%

- Bachelor of Mechanical engineering from Karpagam University (2012), Coimbatore

Result – 70%

- Master of Thermal engineering from RVS College of Engineering (2015), Coimbatore

Result – 75.6%

Publications

International Journal of Applied Engineering Research ISSN 0973-4562 Volume 10, Number 19 (2015)

- International Conference on Advanced Engineering and Technology for Sustainable Development (ICAETSD 2015) "**EFFECT OF GADOLINIUM ZIRCONATE AS THERMAL BARRIER COATING ON PISTON CROWN OF DIESEL ENGINE**" in International Journal of Applied Engineering Research.

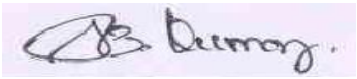
- International Conference on Advanced Engineering and Technology for Sustainable Development (ICAETSD 2015) **"Design and Analysis of Disc Brake Rotor"** in International Journal of Applied Engineering Research.
- International Conference on Advanced Engineering and Technology for Sustainable Development (ICAETSD 2015) **"A Review on Effect of Chemical Treatments of Natural Fibres on Mechanical Properties"** in International Journal of Applied Engineering Research.
- Participated in International Conference on Advanced Engineering and Technology for Sustainable Development ICAETSD 2015 organised by Karpagam College of Engineering.

- Won Best project award for "Design and Fabrication of Hovercraft Model" at Kongu Polytechnic College.

Personal Information

Date of Birth	: 8th May 1991
Languages Known	: English, Tamil and Telugu
Father's Name	: S. Balakrishnan
Nationality	: Indian
Marital Status	: Married
Passport No.	: Z3032223
Personal address	: 87, Krishna Garden, Nehru Park Road, Singanallur, Coimbatore – 641015

I hereby declare that the above mentioned information is true up to my Knowledge.



Date: 01-04-2021
Place: Coimbatore

(KUMARAGURUBARAN SB)