उत्पाद मैन्युअल

भा. मा. 4552 (भाग 2): 1993के अनुसार

स्वचलन वाहन- स्वचालित वाहनों के लिए सुवाह्य जैक- भाग 2 -द्रवचालित जैक के लिए

दस्तावेज़ संख्या-पी एम/IS 4552 (Part 2)/1/सितम्बर 2026

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैन्युअल प्रमाणीकरण के प्रचालन में रीति औरपारिर्शिता की सुसंगतता सुनिश्चित करनेके लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR

AUTOMOTIVE VEHICLES — PORTABLE JACKS FOR AUTOMOBILES, PART 2 HYDRAULIC JACKS

ACCORDING TO IS 4552 (Part 2) : 1993

Document No. - PM/IS 4552 (Part 2)/1/September 2026

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9, बहादुर शाह ज़फर मार्ग
Manak Bhawan, 9, Bahadur Shah Zafar Marg
नई दिल्ली – 110002
New Delhi – 110002

PRODUCT MANUAL FOR AUTOMOTIVE VEHICLES — PORTABLE JACKS FOR AUTOMOBILES, PART 2 HYDRAULIC JACKS ACCORDING TO IS 4552 (Part 2) : 1993

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	**Product**	:	IS 4552 (Part 2) : 1993
	Title	:	Automotive Vehicles — Portable Jacks for Automobiles, Part 2 : Hydraulic Jacks
	No. of Amendments	:	Nil
2.	**Sampling Guidelines:**	:	
a)	Raw material	:	As per Cl. 5. Further, Manufacturer shall submit detailed drawing of each variety of hydraulic jack with details of dimensions along with tolerances, material, heat treatment/hardness etc. in accordance with Cl. 7.1.2 of IS 4552 (Part 2): 1993 and conformity to the same shall be ensured.
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	5 Pcs (of each variety selected for testing — as per Cl. 7.1 of the standard, five jacks shall be supplied for type tests)
3.	**List of Test Equipment**	:	Please refer ANNEX – B
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX – C
5.	**Possible tests in a day**	:	All tests, except the Performance Test (Cl. 7.1.5) and the Load Sustaining Test (Cl. 7.1.8)
6.	**Scope of the Licence**	:	Please refer ANNEX – D

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX – A

Grouping Guidelines

1. Hydraulic Portable Jacks for Automobiles as per IS 4552 (Part 2): 1993 shall be grouped based on the following:

a) **Type of Jack**

- Type 1B1 — Portable hydraulic jack, single lift, plain ram with extension screw, for light vehicles (*Table 1 of IS 4552 (Part 2): 1993*)
- Type 1B2 — Portable hydraulic jack, single lift, screwed ram, for light vehicles (Table 2 *of IS 4552 (Part 2): 1993*)
- Type 1C — Portable hydraulic jack, Multiple (telescopic) lift hydraulic jack for light and medium vehicles (Table 3 *of IS 4552 (Part 2): 1993*)
- Type 2A1 — Portable hydraulic jack, Single lift, plain ram, for light and medium vehicles (Table 4 *of IS 4552 (Part 2): 1993*)
- Type 2A2 — Portable hydraulic jack, Single lift, screwed ram, for light and medium vehicles (Table 5 *of IS 4552 (Part 2): 1993*)
- Type 2B1 — Hydraulic jack, Single lift, plain ram, for heavy vehicles (Table 6 *of IS 4552 (Part 2): 1993*)
- Type 2B2 —Hydraulic jack Single lift, screwed ram, for heavy vehicles (Table 7 *of IS 4552 (Part 2): 1993*)
- Type 2B3 — Hydraulic jack with Single as well as multiple (telescopic) lifts for trailers (Table 8 *of IS 4552 (Part 2): 1993*)
- Type 3A — Hydraulic trolley jacks for light vehicles (Table 9 *of IS 4552 (Part 2): 1993*)
- Type 3B — Hydraulic trolley jacks for medium vehicles (Table 10 *of IS 4552 (Part 2): 1993*)

b) **Nominal Lifting Capacity (in tonnes) and Hydraulic Lift (in mm)-** *As per the applicable Tables (Table 1 to 10) of IS 4552 (Part 2) : 1993*

2. The guidelines given below shall be followed for GoL/CSoL:

a) Sample of each type of hydraulic jack (*as per para 1(a) above*) desired to be covered in the scope shall be tested separately.

b) Within a type, sample of the highest nominal lifting capacity desired to be covered, shall be tested to cover all the lower capacities of that type desired in the scope.

3. The Firm shall declare the varieties intended to be covered in the Licence. Manufacturer shall also submit detailed drawing of each variety of hydraulic jack with details of dimensions along with tolerances, material, heat treatment/hardness etc. in accordance with Cl. 7.1.2 of IS 4552 (Part 2): 1993 and conformity to the same shall be ensured. The Scope of Licence may be restricted based on the manufacturing capabilities of the Manufacturer.

4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX – B

List of Test Equipment

Indicative list of major test equipment required to test as per the Indian Standard (For guidance only)

Sl. No.	Tests used in with Clause Reference	Test Equipment
2.	Dimensional and Material Check, Cl. 7.1.2 and Tables 1 to 10	Measuring Scale Vernier Caliper Micrometer Height gauge / steel tape Hardness tester and material test arrangement as per applicable drawings
3.	No Load Test, Cl. 7.1.3	Functional operation arrangement; load of maximum 30 kgf for retraction check
4.	Overload Test (before and after Performance), Cl. 7.1.4 and 7.1.7	Jack testing rig / loading arrangement with calibrated load cell or proving ring — capacity minimum 120 percent of the highest rated capacity in scope; tilt fixture for loads up to ± 5°
5.	Performance Test, Cl. 7.1.5	Jack testing rig with rated load; cycle counter and timer (100 cycles for type test / 25 operations for acceptance test, 10-minute interval)
6.	Safety Valve Opening Test, Cl. 7.1.6	Loading arrangement with calibrated load cell — verification of opening between 110 percent and 120 percent of rated capacity
7.	Load Sustaining Test, Cl. 7.1.8	Loading arrangement (120 percent of nominal capacity), dial gauge / height measurement for saddle (reduction not more than 3 mm in one hour), timer
8.	Operating Torque Test, Cl. 7.1.9	Torque wrench / force gauge at 1 metre handle length

The above list is indicative only and may not be treated as exhaustive.

ANNEX – C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT/BATCH:

1.3.1 Control Unit: For the guidance of manufacturers, the recommended definition of Control Unit is the quantity of hydraulic jacks of the same Type, same nominal lifting capacity and same hydraulic lift, manufactured from the same lot/consignment of castings and components and following the same manufacturing process (machining, assembly, filling of hydraulic fluid, testing, painting and marking), manufactured in a day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturers have the discretion of declaring their own levels of control or alternatively, manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1. However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted for the whole production.

2. ENSURING COMPLIANCE THROUGH TESTING

Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

i) Shared testing resources like common facility,

ii) Cluster based testing facility,

iii) Sub-contracting to outside laboratories which may either be:

a) BIS recognised/empanelled laboratories, or

b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS — The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. LABELLING, PACKING AND MARKING

Labelling, Packing and Marking shall be done as per IS 4552 (Part 2) : 1993. The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each product, provided the product conforms to all applicable requirements of the Indian Standard.

3.1 Additional Marking Requirements: Additionally, the following shall also be marked on product or package:

a) “For BIS certification details please visit www.bis.gov.in”

4. REJECTION

The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(Recommended Levels of Control- For guidance only)

(1)			(2)		
Test Details			**Levels of Control**		
Clause	**Requirement**	**Test Method Clause Reference**	**No. of Sample**	**Frequency**	**Remarks**
5.1	Material and constructional features	IS 4552 (Pt 2), applicable drawings	Representative samples	Each Consignment	Manufacturer shall submit detailed drawing of each variety of hydraulic jack with details of material, heat treatment/hardness etc. in accordance with Cl. 7.1.2 of IS 4552 (Part 2): 1993 and conformity to the same shall be ensured. No further testing is required if accompanied with Test Certificate of the supplier; peening/plugging not permitted for reclaiming
7.1.1	Visual Test	IS 4552 (Pt 2)	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
7.1.2	Dimensional Check (Tables 1 to 10)	IS 4552 (Pt 2)			
7.1.3	No Load Test	IS 4552 (Pt 2)	Each jack		
7.1.4	Overload Test before Performance	IS 4552 (Pt 2)	Each jack		
7.1.5	Performance Test	IS 4552 (Pt 2)	One	Once in a week	One sample of hydraulic jacks of each type and capacity manufactured during the week, shall be tested
7.1.6	Safety Valve Opening Test	IS 4552 (Pt 2)	One	Once in a week	Opening between 110 % and 120 % of rated capacity; checked at end of all tests

7.1.7	Overload Test after Performance	IS 4552 (Pt 2)	One	Once in a week	One sample of hydraulic jacks of each type and capacity manufactured during the week, shall be tested
7.1.8	Load Sustaining Test	IS 4552 (Pt 2)	One	Once in a week	
7.1.9	Operating Torque Test	IS 4552 (Pt 2)	One	Every control unit	
10, 11	Painting, Preservation and Packing	IS 4552 (Pt 2)	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		

ANNEX – D

Scope of Licence

"Licence is granted to use Standard Mark as per IS 4552 (Part 2) : 1993 with the following scope:

Name of the product	Automotive Vehicles — Portable Jacks for Automobiles, Part 2 Hydraulic Jacks
Type of Jack (1B1/ 1B2/ 1C/ 2A1/ 2A2/ 2B1/ 2B2/ 2B3/ 3A/ 3B)	
Nominal Lifting Capacity (*in tonnes, 2, 3, 4, 5, 6, etc.)*	