

घरेलू प्रयोजनों के लिए ज़िग-ज़ैग सिलाई  
मशीन/हेड

भाग 4 टिकाऊपन की अपेक्षाएँ

( पहला पुनरीक्षण )

Household Zig-Zag Sewing  
Machine/Head

Part 4 Durability Requirements

( First Revision )

ICS 61.080

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## FOREWORD

This Indian Standard (Part 4) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sewing Machine Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard was first published in 2004. This revision has been brought out to keep pace with the latest technological developments and international practices. Also, in this revision, the standard has been brought into the latest style and format of Indian Standards, and references, wherever applicable have been updated.

The following major modifications have been incorporated in this revision of the standard:

- a) Title has been changed;
- b) Scope has been amended to include electronically controlled zig-zag operation;
- c) ON-OFF test has been updated in [3.1](#); and
- d) Clause [4](#) has been amended to include durability requirements for rotary hook mechanism and a note has been added for durability requirements of electric/electronic parts of the sewing machines.

This standard has been formulated to facilitate standardization and with a view to establish quality and durability requirements of household zig-zag sewing machine/head, which includes machines with mechanical/electronically operated zig-zag operations.

This standard covers all types of zig-zag sewing machine/head, excluding embroidery sewing machines.

In the preparation of this standard, assistance has been derived from IS 7493 : 1989 'Sewing machines, household — Durability requirements (*first revision*)'.

The standard on household zig-zag sewing machine, which includes machines with mechanical/electronically operated zig-zag operations, is published in four parts. The other parts in the series are:

- Part 1 General requirements
- Part 2 Accuracy requirements
- Part 3 Sewing requirements

The composition of the Committee responsible for the formulation of this standard is given in [Annex A](#).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.



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| <i>Sl No.</i>   | <i>Item</i>               | <i>Measuring Condition</i>   | <i>Measuring Direction</i>       | <i>Indicator Position</i>  | <i>Maximum Change in Assembly Clearance (mm)</i> |
|---|---------------------------|--|----------------------------------|----------------------------|--|
| (1)   | (2)                       | (3)  | (4)                              | (5)                        | (6)  |
|   | For rotary hook mechanism | b) Difference between two indicator readings when needle bar is at its highest and lowest position | b) Along the axis of shuttle pin | b) Tip of shuttle pin      | 0.03   |
|   |                           | With bobbin-case removed, play of bobbin case holder   | a) In and out                    | a) On the center pin       | 0.02   |
|   |                           |  | b) Up and down                   | b) Top of the holder       | 0.03   |
| iv)   | Arm shaft                 | At different wheel position (turn wheel by hand). Axial push/pull to be given                      | Axial direction                  | Face of rim of wheel       | 0.03   |
| v)  | Feed section              | At the highest position of feed dog above needle plate   | In the direction of motion       | Front edge of the feed dog | 0.15   |
| <p>NOTE — The electric motor (whether built-in or attached externally to the sewing machine) and all electric/electronic parts of the sewing machines being tested should be able to withstand all the above listed durability tests.</p> |                           |  |                                  |                            |  |

## ANNEX A

(Foreword)

## COMMITTEE COMPOSITION

## Sewing Machines Sectional Committee, MED 29

| <i>Organization</i>  | <i>Representative (s)</i>  |
|--|--|
| Research & Development Centre for Bicycle and Sewing Machines, Ludhiana          | SHRI SANJEEV KATOCH ( <b>Chairperson</b> )<br>SHRI PAPINDER SINGH ( <i>Alternate I</i> )<br>SHRI VISHWAS MEHTA ( <i>Alternate II</i> )<br>SHRI MANPREET SINGH ( <i>Alternate III</i> ) |
| Brother International (India) Private Limited, Mumbai                            | SHRI MATHEW YOHANNAN   |
| C.R. Auluck & Sons Private Limited, Ludhiana                                     | SHRI SUNIL AULUCK<br>SHRI KULJEET SINGH ( <i>Alternate</i> )   |
| Directorate General of Quality Assurance, New Delhi                              | SHRI R. V. JAIN  |
| G D Rupal Industries, Ludhiana   | SHRI GURMUKH SINGH   |
| Gee Tech Hooks, Ludhiana   | SHRI MANJEET SINGH   |
| Geminy Industrial Enterprises Private Limited, Ludhiana                          | SHRI VINAY DUA<br>SHRI B.C. PANDEY ( <i>Alternate</i> )  |
| Ludhiana Sewing Machine Association, Ludhiana                                    | SHRI HARDEEP SINGH<br>SHRI RAJVINDER ( <i>Alternate</i> )  |
| Makhan Sewing Machines, Ludhiana   | SHRI DALBIR SINGH DHIMAN   |
| Mechanical Engineering Research and Development Organization (MERADO) , Ludhiana | SHRI SYED SALMAN MOJIZ<br>SHRI BHAGWANT SINGH LAL ( <i>Alternate</i> )   |
| Narindera and Company, Ludhiana  | SHRI S. BALDEV SINGH<br>SHRI HARINDER JIT SINGH ( <i>Alternate</i> )   |
| Navrang Manufacturing Corporation, Ludhiana                                      | SHRI DINESH KAPILA<br>SHRI SUDESH KAPILA ( <i>Alternate</i> )  |
| Northern India Textile Research Association, Ghaziabad                           | SHRI VIKAS SHARMA<br>SHRI VIVEK AGARWAL ( <i>Alternate</i> )   |
| Novel Sewing Machine Technologies, Pune  | SHRI BHARAT NARAYENDAS PARMAR<br>SHRI ARJUN BHARAT PARMAR ( <i>Alternate</i> )   |
| Office of Development Commissioner (MSME), New Delhi                             | SHRI SUVANKAR SANTRA<br>MS MAITREYEE TALAPATRA ( <i>Alternate</i> )  |
| ORAA International, Ludhiana   | SHRI ASHISH GUPTA  |
| Ranew Engineering (India) Private Limited, Ludhiana                              | SHRI SANJEEV KUMAR JAIN<br>SHRI ABHILASH JAIN ( <i>Alternate</i> )   |
| Rita Machines India Private Limited, Ludhiana                                    | SHRI SUNIL KUMAR JAIN<br>SHRI JAGDISH CHANDRA AULUCK ( <i>Alternate</i> )  |
| Singer India Limited, New Delhi  | SHRI PRASHANT AGGARWAL<br>SHRI ATUL KUMAR SETH ( <i>Alternate</i> )  |
| Swan Mechanical Works, Ludhiana  | SHRI AMARJEET SINGH  |

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| <i>Organization</i>   | <i>Representative (s)</i>   |
|---|---|
| United Sewing Machines and Parts Manufacturing Association, Ludhiana        | SHRI DALBIR SINGH DHIMAN  |
| Usha International Limited, New Delhi                                       | SHRI RUP LAL KANGLA<br>SHRI PRANAY SRIWASTAV ( <i>Alternate</i> )   |
| Uttam Sewing Machine Company (Private) Limited, Jalandhar                   | SHRI JAGDEEP RAI<br>SHRI MANOHAR LAL ( <i>Alternate</i> )   |
| Virindra Engineering Works, Ludhiana  | SHRI AMARPREET SINGH PANESAR<br>SHRI SWARN SINGH ( <i>Alternate</i> )   |
| Voluntary Organisation in Interest of Consumer Education (VOICE), New Delhi | SHRI M. A. U. KHAN  |
| BIS Directorate General   | SHRI K. VENKATESWARA RAO, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (MECHANICAL) [REPRESENTING DIRECTOR GENERAL ( <i>Ex-officio</i> )] |

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SCIENTIST 'D'/JOINT DIRECTOR  
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### Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
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