

# JIS

**JAPANESE INDUSTRIAL STANDARD**

## **Needles for Industrial Sewing Machines**

Ⓒ **JIS B 9076**—1987

**Translated and Published**

**by**

**Japanese Standards Association**

Printed in Japan

In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.



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Needles for Industrial Sewing Machines

J I S

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### 1. Scope

This Japanese Industrial Standard specifies needles used mainly for LS 2, EF 4, LZ 2, LT 2 and MA 4 (<sup>1</sup>) type industrial sewing machines, hereinafter referred to as the "Needles".

Note (<sup>1</sup>) These type identification symbols are in accordance with JIS B 9070.

LS 2: lock stitch, straight stitch, long and flat type  
EF 4: edge darning stitch, border stitching, box type  
LZ 2: lock stitch, zig-zag stitch, long and flat type  
LT 2: lock stitch, duplicate series stitch, long and flat type  
MA 4: composite stitch, safety stitch, box type

### 2. Classification

Needles shall be classified into six classes and further divided by the number according to the diameter of stem, hereinafter referred to as the "needle number", as given in Table 1.

Table 1. Classification of Needles

| Class of needle | Type(s) of sewing machine for which needles are used | Needle number |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|------------------------------------------------------|---------------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                 |                                                      | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | —  | —  |
| DA×1            | LS 2                                                 | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | —  | —  |
| DB×1            |                                                      | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| DP×5            | LZ 2 and LT 2                                        | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| DC×1            | EF 4 and MA 4                                        | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| DC×27           |                                                      | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | —  |
| DM×13           |                                                      | 7             | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | —  |

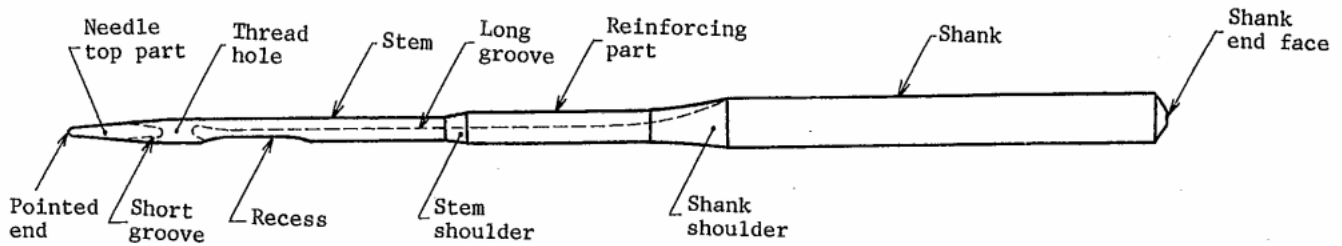
### 3. Name of Each Part

The name of each part shall be as shown in Figure.

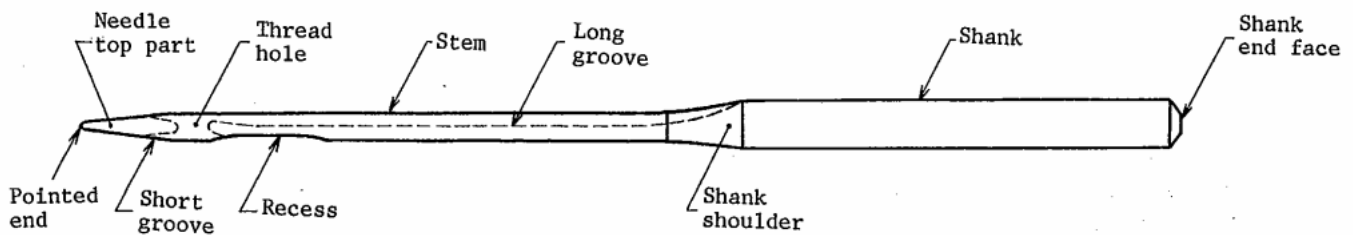
Applicable Standards: See page 17.

Figure. Name of Each Part

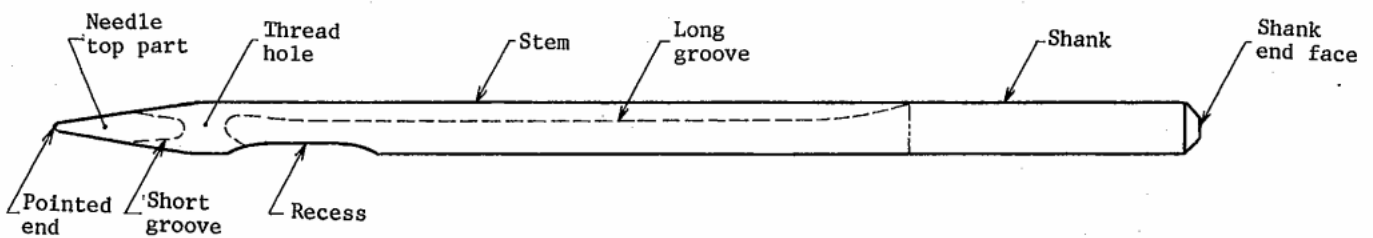
(1) DA×1 DB×1 DP×5 (No. 21 or under)



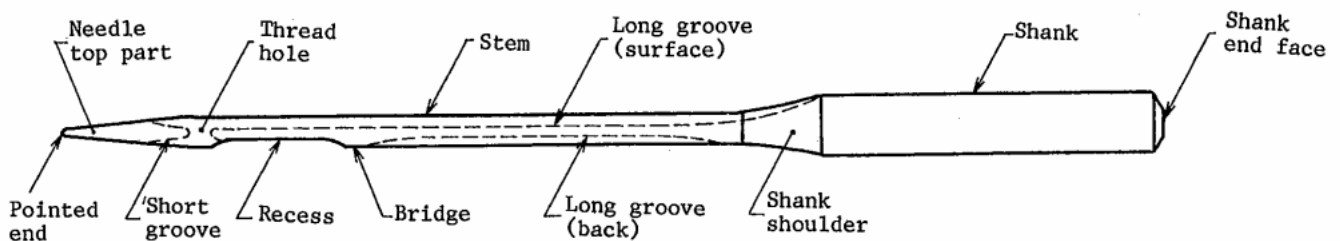
(2) DA×1 DB×1 DP×5 (No. 22 or over)



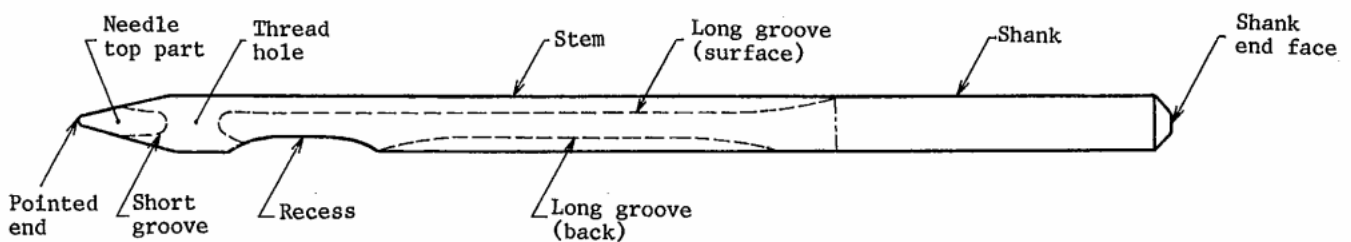
(3) DB×1 DP×5 (No. 25)



(4) DC×1 DC×27 DM×13 (No. 24 or under)



(5) DC×1 (No. 25)



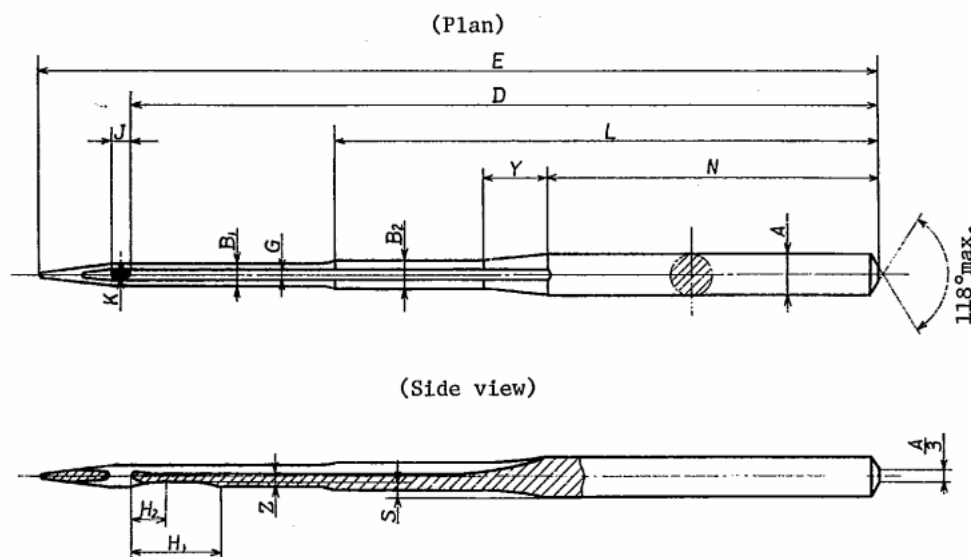
4. Shape and Dimensions

The shape and dimensions shall be in accordance with following (1) to (7).

Further, the dimensions shall be measured by using a micrometer specified in JIS B 7520 or the measuring instrument having an accuracy equivalent or superior thereto.

- (1) Main dimensions and permissible deviations of DA×1 shall be as given in Table 2.

Table 2. Main Dimensions and Permissible Deviations of DA×1



Unit: mm

| <div>Dimension<br/>Permissible<br/>deviation</div> | $B_1$      | $B_2$ | $A$        | $D$       | $E$       | $J$  | $K$  | $G$  | $H_1$ | $H_2$ | $N$  | $L$  | $S$        | $Y$ | $Z$  |
|----------------------------------------------------|------------|-------|------------|-----------|-----------|------|------|------|-------|-------|------|------|------------|-----|------|
| Number<br>of needle                                | $\pm 0.02$ | —     | $\pm 0.02$ | $\pm 0.2$ | $\pm 0.2$ | —    | —    | —    | —     | —     | —    | —    | $\pm 0.08$ | —   | —    |
| 7                                                  | 0.57       | 0.65  | 1.62       | 29.6      | 33.5      | 0.60 | 0.24 | 0.25 | 3.4   | 1.6   | 14.5 | 21.0 | 0.60       | 4.9 | 0.31 |
| 8                                                  | 0.62       | 0.70  |            |           |           | 0.65 | 0.25 | 0.27 |       |       |      |      |            | 4.8 | 0.34 |
| 9                                                  | 0.67       | 0.75  |            |           |           | 0.70 | 0.26 | 0.27 | 3.6   |       |      |      |            | 4.6 | 0.37 |
| 10                                                 | 0.72       | 0.80  |            |           |           | 0.75 | 0.28 | 0.29 |       |       |      |      |            | 4.5 | 0.40 |
| 11                                                 | 0.77       | 0.85  |            |           |           | 0.80 | 0.30 | 0.31 | 3.8   |       |      |      |            | 4.4 | 0.42 |
| 12                                                 | 0.82       | 0.92  |            |           |           | 0.85 | 0.32 | 0.33 |       |       |      |      |            | 4.2 | 0.45 |
| 13                                                 | 0.87       | 0.97  |            |           |           | 0.90 | 0.34 | 0.35 | 4.0   |       |      |      |            | 4.0 | 0.48 |
| 14                                                 | 0.92       | 1.02  |            |           |           | 0.95 | 0.36 | 0.37 |       |       |      |      |            | 3.9 | 0.50 |
| 15                                                 | 0.97       | 1.07  |            |           |           | 1.00 | 0.38 | 0.40 | 4.2   |       |      |      |            | 3.7 | 0.53 |
| 16                                                 | 1.02       | 1.12  |            |           |           | 1.05 | 0.40 | 0.42 |       |       |      |      |            | 3.5 | 0.56 |
| 17                                                 | 1.07       | 1.17  |            |           |           | 1.10 | 0.42 | 0.44 | 4.4   |       |      |      |            | 3.4 | 0.58 |
| 18                                                 | 1.12       | 1.22  |            |           |           | 1.15 | 0.44 | 0.46 |       |       |      |      |            | 3.2 | 0.62 |
| 19                                                 | 1.22       | 1.32  |            |           |           | 1.25 | 0.48 | 0.52 | 4.6   |       |      |      |            | 2.7 | 0.68 |
| 20                                                 | 1.27       | 1.37  |            |           |           | 1.30 | 0.50 | 0.54 |       |       |      |      |            | 2.5 | 0.70 |
| 21                                                 | 1.32       | 1.42  |            |           |           | 1.35 | 0.52 | 0.56 | 4.8   |       |      |      |            | 2.2 | 0.73 |
| 22                                                 | 1.42       |       |            |           |           | 1.45 | 0.56 | 0.60 |       |       |      |      |            | 2.2 | 0.78 |

- Remarks
1.  $B_1$  shall be measured at the middle part avoiding the recess of stem.
  2.  $K$  shall be measured at the middle of thread hole.
  3. For  $S$ , the clearance between the most deep part of recess and the side line of shank shall be measured.
  4. For  $H_2$ , the distance from the end of thread hole until the most deep part of recess shall be measured.
  5. Because No. 22 has no reinforcing part as shown in Figure (2),  $B_1$  and  $B_2$  are of the same dimension.
  6. As to the shape of pointed end, there are sharp end and rounded end.
  7. Dimension not specified with permissible deviation shall be the recommended dimension.