

# JECTOR PUNCHES WITH LOCATING DOWEL HOLES

— FINISHED FOR RETAINERS —

Calculating the projection length of the jector pin (reference value) **P.241**

- For details of jector holes, refer to Jector Punch Blanks. **P.236**
- For details of jector pins, refer to Jector Pin Sets. **P.241**

Type	Shank diameter D tolerance	Material	Catalog No.				The tip shape can be selected from Tip shape A~G in the figure below.
			Type	Tip shape	B length	With dowel hole	
With locating dowel hole	Dowel pin D10~32 MS6-25 D38/45 SJB-CMS	Dm5	Equivalent to SKD 11 60~63HRC	SJ SJV	A D R E G	S L X	-C

D	d
10~32	6
38~45	10

Tip length (B) X > L > S

Tip shape A

Tip shape D

Tip shape R

Tip shape E

Tip shape G

Catalog No.	Type	D	L								0.01mm increments			B	H	
											A	D R E G	R			
											min. P max.	P-Kmax.	P-Wmin.			R
S	Spring reinforced type (D10~32)	10	60	70	80	90	100	110	120	3.00~9.99	9.97	3.00	13	13		
		13	60	70	80	90	100	110	120	6.00~12.99	12.97	6.00		16		
		16	(60)	70	80	90	100	110	120	10.00~15.99	15.97	6.00		19		
		20	(60)	70	80	90	100	110	120	13.00~19.99	19.97	6.00		23		
		25	(60)	70	80	90	100	110	120	18.00~24.99	24.97	6.00		28		
		32	(60)	70	80	90	100	110	120	20.00~31.99	31.97	7.00		35		
		(38)	(60)	70	80	90	100	110	120	28.00~37.99	37.97	8.00		41		
		(45)	(60)	70	80	90	100	110	120	35.00~44.99	44.97	9.00		48		
		L	Spring reinforced type (D10~32)	10	70	80	90	100	110	120	3.00~9.99	9.97		3.00	19	13
				13	70	80	90	100	110	120	6.00~12.99	12.97		6.00		16
16	70			80	90	100	110	120	10.00~15.99	15.97	6.00	19				
20	70			80	90	100	110	120	13.00~19.99	19.97	6.00	23				
25	70			80	90	100	110	120	18.00~24.99	24.97	6.00	28				
32	70			80	90	100	110	120	20.00~31.99	31.97	7.00	35				
(38)	70			80	90	100	110	120	28.00~37.99	37.97	8.00	41				
(45)	70			80	90	100	110	120	35.00~44.99	44.97	9.00	48				
X	Spring reinforced type			10	80	90	100	110	120	6.00~9.99	9.97	6.00	30	13		
				13	80	90	100	110	120	6.00~12.99	12.97	6.00		16		
		16	100	110	120	10.00~15.99	—	—	19							
		20	100	110	120	13.00~19.99	—	—	23							
		25	100	110	120	18.00~24.99	—	—	28							
		32	100	110	120	20.00~31.99	—	—	35							

- The spring constant of SJV□□-C is as twice that of SJ□□-C.
- L(60) → B=13 If the full length is (60), the tip length is 13 mm in all cases.
- A: P > D - 0.03 → l = 0 If P > D - 0.03 for a round punch, D - 0.01 (press-in lead) is not included.
- D R E G: P · K > D - 0.05 → l = 0 If P · K > D - 0.05 for a shaped punch, D - 0.01 (press-in lead) is not included.
- D(38) and (45) are specifications available for SJ□□-C only. Spring reinforced types are available for D10 ~ 32 only.

**Effect of spring reinforced type**  
The spring constant is twice that of a standard type jector punch. The large spring load results in more effective scrap removal.

**Example**  
Uses of punches with locating dowel holes  
This type of punch is mainly used with dies for parts such as automobile bodies, in combination with a retainer that holds the punch. Rather than indirect positioning using the retainer dowel hole, these punches can be positioned directly using the dowel hole machined on the punch axis, improving die accuracy. These punches are particularly effective when used for die machining with NC machines. This type of punch can be also used with dies for the external panels of electrical appliances, either in combination with a retainer, or attached to the punch plate of an ordinary progressive die.



• D38 · 45 A SJB-CMS  
• Finished for retainer  
• For details on retainers P.731 and later pages.  
• Optional backing plates are available. Only the backing plates for φ38 · φ45 punches have a φ10.2 hole for a stepped dowel pin. **P.236**

Order **Catalog No.** — L — P — W — R (R only)  
SJDS-C 38 — 100 — P30.00 — W18.00

Days to Ship **Quotation**

Alterations **Catalog No.** — L(LC) — P(PC) — W(WC) — R — (BC·HC·TC, etc.)  
SJAS-C 25 — LC95 — P18.05 — PKC

Alteration	Code	A	D R E G	1Code																																		
Alterations to tip	PC WC	Tip dimension change PC ≥ PCmin. 0.01 mm increments (If combined with PKC, 0.001 mm increments can be selected.)	Tip dimension change PC · WC ≥ PC · WCmin. 0.01 mm increments (Cannot be used for tip X.)																																			
		<table border="1"> <thead> <tr> <th>D</th> <th>PCmin.</th> <th>D</th> <th>PC · WCmin.</th> </tr> </thead> <tbody> <tr><td>10</td><td>2.800</td><td>10</td><td>2.80</td></tr> <tr><td>13</td><td>5.000</td><td>13</td><td>5.00</td></tr> <tr><td>16</td><td>8.000</td><td>16</td><td>5.00</td></tr> <tr><td>20</td><td>9.000</td><td>20</td><td>5.00</td></tr> <tr><td>25</td><td>9.000</td><td>25</td><td>5.00</td></tr> <tr><td>32</td><td>15.000</td><td>32</td><td>6.00</td></tr> <tr><td>38</td><td>23.000</td><td>38</td><td>7.00</td></tr> <tr><td>45</td><td>30.000</td><td>45</td><td>8.00</td></tr> </tbody> </table>	D	PCmin.	D	PC · WCmin.	10	2.800	10	2.80	13	5.000	13	5.00	16	8.000	16	5.00	20	9.000	20	5.00	25	9.000	25	5.00	32	15.000	32	6.00	38	23.000	38	7.00	45	30.000	45	8.00
	D	PCmin.	D	PC · WCmin.																																		
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	25	9.000	25	5.00																																		
	32	15.000	32	6.00																																		
	38	23.000	38	7.00																																		
45	30.000	45	8.00																																			
BC	Tip length change (shorter than standard) 2 ≤ BC < B 0.1 mm increments																																					
SC	Lapping of tip (P dimension tolerance and increment are the same. R=0 cannot be selected for tip shape D corners.)																																					
PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1 mm increments (PRC ≤ (P - d) · 0.5 / 2 d, dimension details P.236 (Cannot be combined with PCC.)																																					
PCC	Chamfering of tip side edge 0.3 ≤ PCC ≤ 1 0.1 mm increments (PCC ≤ (P - d) · 0.5 / 2 d, dimension details P.236 (Cannot be combined with PRC.)																																					
PKC	Tip tolerance change P + 0.01 → + 0.005 0 → + 0.01 (P dimension can be selected in 0.001 mm increments.)	Tip tolerance change P · W ± 0.01 → + 0.01 0																																				
Alterations to full length	LC	Full length change (reduction in tip length) LC < L 0.1 mm increments (Tip length B is reduced by (L - LC). (If combined with LKC-LKZ, 0.01 mm increments can be selected.) (Projection length of jector pin is 2 mm.)																																				
	LKC	Full length tolerance change L + 0.3 → + 0.05 0																																				
	LKZ	Full length tolerance change L + 0.3 → + 0.01 0 (Cannot be used for D > 25.)																																				
	Alterations to head	KC	Addition of single key flat to head (Key flat position change 1° increments)																																			
WKC		Addition of double key flats in parallel (Double key flats in parallel Can be combined with KC.)																																				
KFC		Double key flats at 0° and a selected angle 1° increments (Double key flats at 0° and a selected angle 1° increments (Cannot be combined with KC-WKC. (Cannot be combined with KC-WKC.)																																				

Alteration	Code	A	D R E G	1Code
Alterations to head	NKC	No key flat		
	HC	Head diameter change D ≤ HC < H 0.1 mm increments		
	TC	Head thickness change 3.5 ≤ TC < 5 0.1 mm increments (Full length L is shortened by (5 - TC). If combined with LC, full length is equal to LC.)		
	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.5 ≤ TCC ≤ (H - D) / 2		
Alterations to shank	AC	The jector pin is removed to create an air path and the side vent hole is plugged from the inside by inserting a resin (ABS) ring.		
	NC	The jector pin is removed. (Cannot be combined with AC.)		
	TPC	Dowel pin change MS6-25 that comes with the product is changed to MSTP6-25 (tapped type). (Cannot be used for D38-45.)		
	NDC	No press-in lead l ≥ 3 → l = 0		

Price **Quotation**