

Locating Pins - Shouldered Set Screw

For products uncovered by e-Catalog Standard, see P.131.

Features: Shouldered Set Screw Type. Selectable from Circumference Groove, Notched and Set Screw Flat Shapes.

Material (1) SKS3 Equivalent
Surface Treatment -
Hardness Treated Hardness: 60~63HRC
Type Notched Set Screw Flat
Shape Code S (Round) D (Diamond)

When D (P) ≥ 3
 a=1.0
 d=D(P)-0.2
 When D(P) < 3
 a=0.5
 d=D(P)-0.1

Relief dimension is a reference value.

• Circumference Groove Shape
 • Notch Shape
 • Set Screw Flat Shape

• ℓ_3 is the recommended dimension of the position of set screw tip.
 • A machining step remains on the shoulder top for Diamond Shape.
 • $\ell_2 > A+G+1$
 • Select set screw position X or Y for Notched Diamond Type and Set Screw Flat Diamond Type.

Circumference Groove Shape

Type	Part Number	Shape Code	D	D dim. Tolerance	P		L		B		d	ℓ_1	ℓ_2	C1	m	H	(W)	
					0.01mm Increment	1mm Increment	0.1mm Increment	1mm Increment	0.1mm Increment	When D<P							When D≥P	
JPGJ	S (Round) D (Diamond)	6	-0.004	2.00-6.00	3-12	2.0-20.0	4.5	5	5	1	3	8	3	1.5				
		6S	-0.012	2.00-6.00	2-12		6.5	6	6	1.5	11	3.5	1.8					
		8	-0.005	3.00-8.00	4-16	8	8	8	2	15	5	2.5						
		8S	-0.014	3.00-8.00	3-16	10	10	10	0.5	19	7	4						
		10	-0.006	5.00-12.00	6-24	3.0-25.0	14	14	3	23	9	5						
		10S	-0.017	5.00-12.00	4-20	3.0-20.0	18	18	0.5	23	9	5						
		12	-0.006	5.00-12.00	5-24	3.0-20.0	18	18	0.5	23	9	5						
		12S	-0.017	10.00-16.00	8-32	5.0-25.0	18	18	0.5	23	9	5						
		16	-0.007	10.00-16.00	7-32	5.0-20.0	18	18	0.5	23	9	5						
		16S	-0.020	13.00-20.00	10-40	5.0-25.0	18	18	0.5	23	9	5						

Pins having "S" inserted after the D dimension are of space-saving type with mounting parts (L and ℓ_1) shortened. (Actual D dimension is the number without "S".)

Notch Shape, Set Screw Flat Shape

Type	Part Number	Shape Code	D	D dim. Tolerance	P		L		B		G	A	Flat Position	ℓ_3	ℓ_4	h	c	m	H	Applicable Set Screw		(W)	
					0.01mm Increment	1mm Increment	0.1mm Increment	1mm Increment	0.1mm Increment	When D<P										When D≥P			
(Notched) JPCJ	(Set Screw Flat) JPDJ	S (Round) D (Diamond)	6	-0.004	5.00-7.00	12-20	5.0-20.0	2.0-8.0	2.0-12.0	2.0-16.0	3-9	X	5.5	2.5	1	1	3	8	M4	3	1.5		
			8	-0.005	5.00-9.00	14-22	5.0-30.0(15.0)	2.0-12.0	2.0-16.0	2.0-20.0	Y	7.5	3.5	1.2	1.5	11	M5	3.5	1.8				
			10	-0.014	5.00-12.00	15-25	5.0-30.0(25.0)	2.0-16.0	2.0-20.0	2.0-28.0	• Diamond Applicable to Diamond Shape Type only.	10.5	5.5	2	3	5	M8	7	4				
			12	-0.006	5.00-12.00	15-25	5.0-30.0(25.0)	2.0-20.0	2.0-28.0	2.0-36.0		13.5	8.5	2	3	5	M8	9	5				
			16	-0.017	10.00-16.00	24-35	5.0-30.0(30.0)	2.0-20.0	2.0-36.0														
			20	-0.020	13.00-20.00	27-40	5.0-30.0(30.0)	2.0-20.0	2.0-36.0														

B dimension in () is applicable to Diamond Shape. Applicable set screws in the table are the recommended sizes for Notch Shape.

Ordering Example: Part Number - P - L - B - G - A - Flat Position

JPGJS10 - P9.05 - L6 - B3.5 - G5 - A8.2 - X

JPCJDS8 - P5.05 - L20 - B10.1 - G5 - A8.2 - X

Circumference Groove Shape

D	Unit Price Round Shape (1)Treated SKS3	Unit Price Diamond Shape (1)Treated SKS3
6		
6S		
8		
8S		
10		
10S		
12		
12S		
16		
16S		
20		

Notch Shape

D	Unit Price Round Shape (1)Treated SKS3	Unit Price Diamond Shape (1)Treated SKS3
6		
8		
10		
12		
16		
20		

Set Screw Flat Shape

D	Unit Price Round Shape (1)Treated SKS3	Unit Price Diamond Shape (1)Treated SKS3
6		
8		
10		
12		
16		
20		

Alterations: Part Number - P - L - B - (TC)

JPGJS10 - P9.05 - L6 - B7.5 - TC8

Alterations: Length of Tapered Point

Code: TC

Changes the m dimension. Ordering Code: TC8 (1mm increment)

Spec.

- B+m ≥ TC+2 (Straight Section min. 2mm)
- P/2 - TC × tan15° (≈0.27) > 0.5 (Tip Ø1.0 min.)
- B dimension changes when TC is specified. (Changed B dimension = B+m-TC)

Locating Pins - Shouldered Tip Shape Selectable

For products uncovered by e-Catalog Standard, see P.131.

Features: The tip shape and the fixed shape of the Shouldered type are selectable from three types respectively.

Material (1)SKS3 Equivalent (2)SKS3 Equivalent (3)S45C Equivalent (4)S45C Equivalent (5)S45C Equivalent (6)SUS304 (7)SUS304 (8)SUS440C or 13Cr stainless
Surface Treatment - Hard Chrome Plating Black Oxide Hard Chrome Plating - Hard Chrome Plating -
Hardness Treated Hardness: 55-60HRC Treated Hardness: 50-55HRC Plating Hardness: 750HV - Treated Hardness: 45-50HRC or more Treated Hardness: 45-50HRC or more Treated Hardness: 45-50HRC Plating Hardness: 750HV - Plating Hardness: 750HV - Treated Hardness: 50-55HRC
Type LP (Round) LPD (Diamond)
Mounting Shape M (Press Fit) U (Tapped) X (Threaded)
Material Code J G Y B R S D C

When D (P) ≥ 3
 a=1.0
 d=D(P)-0.2
 When D(P) < 3
 a=0.5
 d=D(P)-0.1

Relief dimension is a reference value.

• Installation Part Shape
 • Tip Shape

• SUS304 may not be polished and may have no centering hole.

• SUS440C or 13Cr stainless has an identification groove at any position on D part.
 • A machining step remains on the shoulder top for Diamond Shape.

Tip Shape Selection

• $\ell_1 = R \sqrt{R^2 - P^2} / 4$
 • $\ell_2 = (\frac{P}{2} - \frac{G}{2}) \div \tan 30^\circ$
 Reference: $\tan 30^\circ = 0.577$
 • When G=P, add about 0.2 chamfering.
 • $\ell_3 = \frac{P}{2} \div \tan 30^\circ + R \div \sin 30^\circ$
 Reference: $\tan 30^\circ = 0.577, \sin 30^\circ = 0.5$

Mounting Shape Selection

Shape M (Press Fit) Shape U (Tapped) Shape X (Threaded)

Part Number

Type	Mounting Shape	Material Code	Tip Shape	D	P	B	R	G	L	T	
LP (Round) LPD (Diamond)	M (Press Fit) U (Tapped) X (Threaded)	J G Y B R S D C	A B C	2	2.50-4.00	1.5-25.0			2-6		
				3	3.50-6.00	2.0-25.0(10.0)			3-8(6)		
				4	3.50-7.00	2.0-25.0(10.0)			3(4)-10(8)		
				5	4.00-8.00	2.0-30.0(10.0)			5-15(10)		
				6	5.00-10.00	2.0-40.0(12.0)			6(10)-15(12)		
				8	6.00-11.00	2.0-40.0(15.0)			8(14)-16		
				10	8.00-13.00	3.0-50.0(20.0)			10(14)-24		
				12	10.00-15.00	3.0-50.0(20.0)			12(14)-24		
				16	13.00-18.00	5.0-50.0(20.0)			16-32		
				20	16.00-22.00	5.0-50.0(20.0)			20-40		

• B dimensions in () and L dimensions in () are for Diamond Shape.

Ordering Example: Part Number - P - B - R - G - L - T

LP U J B 8 - P10.00 - B10.0 - G8 - L14 - T2.0

LPD X J A 10 - P11.98 - B5.0 - R10 - L10 - T5.0

D	Round Shape and Mounting Shape M Unit Price								Diamond Shape and Mounting Shape M Unit Price							
	(1)Treated SKS3 LPMJ	(2)Hard SKS3 LPMG	(3)S45C LPMY	(4)S45C Black Oxide LPMB	(5)Hard S45C LPMR	(6)SUS304 LPMS	(7)Hard SUS304 LPMD	(8)SUS440C or 13Cr stainless LPMC	(1)Treated SKS3 LPDMJ	(2)Hard SKS3 LPDMG	(3)S45C LPDMY	(4)S45C Black Oxide LPDMB	(5)Hard S45C LPDMR	(6)SUS304 LPDMS	(7)Hard SUS304 LPDMD	(8)SUS440C or 13Cr stainless LPDMC
2																
3																
4																
5																
6																
8																
10																
12																
16																
20																

Alterations: Part Number - P - B - R - G - L - T - (HC, LAC, LTE)

LPMJA6 - P10.00 - B10.0 - R6 - L6 - T3.0 - LAC

Alterations: Wrench Flats Alteration Wrench Hole (Ø3.5) Wrench Hole (Ø2.5)

Code: HC LAC LTE

Spec. HC = 0.5mm increment HC > DHC > P HC10.0

Adds a 0.3.5 hole. Applicable when B≥10 and P≥8. Not applicable to Diamond Shape.

Adds a 0.2.5 hole. Applicable when B≥8 and 7≤P≤15. Not applicable to Diamond Shape.