



# Locating Pins for Jigs Double Stepped Type

## -Tip Shape Selectable-



CAD Data Folder Name: Locating\_Pins  
\* All prices are in SS and subjected to change without prior notice

Features: One pin can locate work for different diameter coaxially. For example, refer to P.898.

**Shoulder Type** **RoHS**

Type	Nuts	Set Screws	M	H
WLANA WLATA	SCM435			Hardening Hardness 35~40HRC
TWLANA TWLATA	SCM415			Carburization Hardening Hardness 55HRC-(Depth 0.7-0.8) Anti-carburizing on Thread

Reference:  $\sin 15^\circ = 0.259$   $\sin 30^\circ = 0.5$   $\sin 45^\circ = 0.707$   
 $\tan 15^\circ = 0.267$   $\tan 30^\circ = 0.577$   $\tan 45^\circ = 1$

Surface Finish Relief

**R Dimension**

Q	R
3.0~6.0	1.5
6.1~8.0	2
8.1~12.0	3
12.1~15.0	4

Tip Shape (Angle 30° Taper R)

Nuts

Set Screws

Tip Shape (Angle 30° Taper R)

Tip Shape (Angle Selection Taper R)

Type	Part Number	D <sub>n7</sub>	P	Q	F-B	L	A	E (Shape A)	ℓ	L <sub>1</sub>	ℓ <sub>1</sub>	H	d	Applicable Set Screws	Unit Price Qty. 1~4
WLANA WLATA TWLANA TWLATA	Not Specified	6	0~0.12	4.0~7.0	3.0~6.0	5 8 10	30		6	8	9	4	M5	15.72 15.72 21.66 21.66	
	(Angle 30° Taper R)	8	0	4.0~9.0	3.0~8.0	5 8 10 12 15	60	1~10	10	11	5	4	M5	18.93 18.93 26.47 26.47	
	(Taper)	10T	0~0.015	6.0~12.0	4.5~11.0	5 8 10 12 15	90		12	10	13	7	M6	26.47 26.47 33.85 33.85	
	(Angle Selection Taper R)	12	0	9.0~13.0	8.0~12.0	8 10 12 15 18	120		15	12	15	9	M8	33.85 33.85 40.91 40.91	
		16	0~0.018	11.0~16.0	10.0~15.0	10 12 15 18 20	150		18	12	19	13	M8	40.91 40.91 46.21 46.21	

ⓅP-1~0 ⓅB+2~F-50 ⓅWhen P dimension is 4~7, B:Px3 When Q dimension is 3~6, F:Qx3. ⓅConventional RC alteration (change of angle) can be substituted with Tip B Shape.

**No Shoulder Type** **RoHS**

Type	Nuts	Set Screws	M	H
WLNA WLNTA	SCM435			Hardening Hardness 35~40HRC
TWLNA TWLNTA	SCM415			Carburization Hardening Hardness 55HRC-(Depth 0.7-0.8) Anti-carburizing on Thread

Reference:  $\sin 15^\circ = 0.259$   $\sin 30^\circ = 0.5$   $\sin 45^\circ = 0.707$   
 $\tan 15^\circ = 0.267$   $\tan 30^\circ = 0.577$   $\tan 45^\circ = 1$

Tip Shape (Angle 30° Taper R)

Nuts

Set Screws

Tip Shape (Angle 30° Taper R)

Tip Shape (Angle Selection Taper R)

Type	Part Number	D <sub>n7</sub>	P	Q	F-B	L	A	E (Shape A)	ℓ	L <sub>1</sub>	ℓ <sub>1</sub>	H	d	Applicable Set Screws	Unit Price Qty. 1~4
WLNA WLNTA TWLNA TWLNTA	Not Specified	6	0~0.12	8.0~12.0	7.0~11.0	5 8 10	30		6	8	8	4	M5	17.49 17.49 32.89 32.89	
	(Angle 30° Taper R)	8	0	10.0~16.0	9.0~15.0	5 8 10 12 15	60	1~10	10	11	5	4	M5	22.46 22.46 33.53 33.53	
	(Taper)	10T	0~0.015	12.0~20.0	10.0~19.0	5 8 10 12 15	90		12	10	13	7	M6	26.47 26.47 33.85 33.85	
	(Angle Selection Taper R)	12	0	14.0~25.0	13.0~24.0	8 10 12 15 18	120		15	12	15	9	M8	33.85 33.85 40.91 40.91	
		20	0~0.021	18.0~32.0	17.0~31.0	10 12 15 18 20	150		18	12	19	13	M8	40.91 40.91 46.21 46.21	

ⓅP-1~0 ⓅB+2~F-50 ⓅConventional RC alteration (change of angle) can be substituted with Tip B Shape.

Order Example: Part Number - P - Q - F - B - L - A - E

WLNA 10 - P7.8 - Q5.0 - F10 - B5 - L10 (Standard)  
 WLNTA B 10 - P12.8 - Q11.9 - F10 - B10 - A60 (Shape B)

Volume Discount Rate

Quantity Price List 5% 10% 15%

ⓅFor orders larger than indicated values, please request for quotation.

Alterations	Flat Position	Flat	Wrench Flats	Tip Angle	Thread Diameter	Upper Relief Radius
Shoulder No Shoulder	Shoulder H-P:2 No Shoulder	Shoulder H-1:1 No Shoulder	Add a wrench flat.	Changes the tip angle. [Selection] 90° 90° 120° [Ordering Code] RC60	Changes the thread diameter. [Selection] D:3-M-D M min 3	Changes R1 of the selection below. [Selection] 0.2 RTC R3 [Ordering Code] RTC0.2
Code	KC	KD	SC	RC	MC	RTC
Spec.	Changes the flat position to 90° from the standard position 0°. ⓅApplicable to Insulation Type Diamond & Oval Shape only.	Machines one side. ⓅApplicable to Round Shape.	Add a wrench flat.	Changes the tip angle. [Selection] 90° 90° 120° [Ordering Code] RC60	Changes the thread diameter. [Selection] D:3-M-D M min 3	Changes R1 of the selection below. [Selection] 0.2 RTC R3 [Ordering Code] RTC0.2
Price Adder	3.21	3.21	8.02	3.21	3.21	Free of charge.



# Locating Pin for Jig

## Oval Shape, Insulation Type



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**Oval** **RoHS**

Type	Nuts	Set Screw Type	Shoulder	M	H
NLANF NLATF			Shoulder	SCM435	Hardening Hardness 35~40HRC
NLNNF NLNTF			No Shoulder	SCM415	Carburization Hardening Hardness 55HRC-(Depth 0.7-0.8) Anti-carburizing on Thread

Reference:  $\sin 15^\circ = 0.259$   $\sin 30^\circ = 0.5$   $\sin 45^\circ = 0.707$   
 $\tan 15^\circ = 0.267$   $\tan 30^\circ = 0.577$   $\tan 45^\circ = 1$

Tip Shape (Angle 30° Taper R)

Nuts

Set Screws

Tip Shape (Angle 30° Taper R)

Tip Shape (Angle Selection Taper R)

Type	Part Number	D	P	W	B	L	A	E	H	d	R	Applicable Set Screws	Unit Price Qty. 1~4
NLANF NLNNF NLATF NLNTF	Not Specified	6	5.0~9.0			5 8			9	4	1	M5	54.55 65.46
	(Angle 30° Taper R)	8	5.0~11.0	3.0~17.0	5~30	5 8 12 15 30	30	1~10	11	5	1.5	M5	60.97 70.11
	(Taper)	10	7.0~13.0	(P:W+2.0)	(B:Wx4)	10 12 15 18 20	60		13	7	2	M6	65.78 74.28
	(Angle Selection Taper R)	12	9.0~15.0			12 15 18 20	120		15	9	3	M6	70.59 79.74
		16	13.0~19.0			15 18 20	150		19	13	4	M8	77.01 86.96

Type	Part Number	D	P	W	B	L	A	E	H	d	R	Applicable Set Screws	Unit Price Qty. 1~4
NLNNF NLNTF NLATF NLNTF	Not Specified	6	8.0~12.0			5 8			9			M5	59.84 71.88
	(Angle 30° Taper R)	8	10.0~16.0	D+2≤W≤P-2	5~30	5 8 12 15 30	30	1~10	11	3		M6	67.06 77.17
	(Taper)	10	12.0~20.0			10 12 15 18 20	60		13			M6	72.20 81.86
	(Angle Selection Taper R)	12	14.0~24.0			12 15 18 20	120		15	5		M8	77.49 87.44
		16	18.0~30.0			15 18 20	150		19	6		M8	84.71 95.78

Order Example: Part Number - P - W - B - L - A - E

NLANF 10 - P11.8 - W9.8 - B10 - L10 - A30 - E5 (Standard)  
 NLNNF A 10 - P11.8 - W9.8 - B10 - L10 - A30 - E5 (Shape A)  
 NLATF B 10 - P11.8 - W9.8 - B10 - L10 - A60 (Shape B)

Volume Discount Rate

Quantity Price List 5% 10% 15%

ⓅFor orders larger than indicated values, please request for quotation.

**Insulation Type** **RoHS**

Type	Nuts	Set Screws	Shapes	M	S	H
Z-LANA Z-LAND			Round	Special Stainless Steel (KCF)	Insulating Coating	Approx. 1300HV (Approx. 200HV Inside)
Z-LATA Z-LATD			Diamond			

Tip Shape (Angle 30° Taper R)

Nuts

Set Screws

Tip Shape (Angle 30° Taper R)

Tip Shape (Angle Selection Taper R)

Type	Part Number	D <sub>n8</sub>	P	W	B	L	A	E	H	d	R	Applicable Set Screws	Unit Price Qty. 1~19
Z-LANA Z-LAND Z-LATA Z-LATD	Not Specified	8	3.0~9.0			5 12 15 10 8			11	5	1.5	M5	76.85 99.95
	(Angle 30° Taper R)	10	5.0~12.0	5~30	(B:Px4)	10 12 15 12 10 18 5	8	13	7	2	M6	80.54 104.61	
	(Taper)	10T	5.0~12.0			10 12 15 18 15 12 10 18 5	10	15	9	3	M8	80.54 104.61	
	(Angle Selection Taper R)	12	9.0~13.0			12 15 18 15 12 10 18 5	120	15	19	13	4	M8	87.92 113.27
		16	13.0~16.0			15 18 20 18	150	19	19	13	4	M8	97.87 124.34

Ⓟ(W) Dimension W=2 when D8: P:5.0 W=3 when D10: 10T: P:7.0

Order Example: Part Number - P - B - L

Z-LANA10 - P7.8 - B6 - L10  
 Z-LATD10 - P11.5 - B20

Volume Discount Rate

Quantity Price List 5%

ⓅFor orders larger than indicated values, please request for quotation.

Insulating Locating Pins (Material: KCF) Cross-Section Diagram

Sparks Spot Welding

General Items Z-LANA

Insulating Layer with depth of 5~10μm (approx. HV1300) is formed.  
 (Alumina contained in the insulating layer is especially excellent in its insulating properties.)

Characteristics Comparison (Reference)

	Special Stainless Steel KCF	Stainless Steel SUS304	Ceramics A1203	Nylon	Bakelite (Cloth Base)	Bakelite (Iron Base)
Natural Resistance (Ω)	2x10 <sup>9</sup>	72x10 <sup>6</sup>	10 <sup>14</sup>	5x10 <sup>12</sup>	10 <sup>10</sup>	10 <sup>12</sup>
Insulation Breakdown Voltage (kV)	150	~10 <sup>1</sup>	~10 <sup>1</sup>	1.9x10 <sup>1</sup>	~	~
Tensile Strength (MPa)	560	520	~	88	80	100
Elongation (%)	25	40	~	2	2	2
Flexural Strength (MPa)	~	~	~350	103	180	160
Vickers Hardness (HV)	~2000	200	1400	~	~	~
Insulation Properties	Good	Poor	Excellent	Excellent	Excellent	Excellent
Strength	Good	Good	Poor	Poor	Poor	Poor
Heat Resistance	Good	Good	Excellent	Poor	Acceptable	Acceptable
Machinability	Excellent	Good	Poor	Good	Good	Good
Cost	Good	Excellent	Poor	Good	Good	Good