

# Locating Pins - Tip Shape Selectable

## Threaded

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

Features: Tip shape is selectable and L=0 is available.

Material No.	Material	Surface Treatment	Hardness	Round	Diamond
(1)	SKS3 Equivalent	-	Treated Hardness: 55~60HRC	LP AJ	LPDAJ
(2)	SKS3 Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50~55HRC Plating Hardness: 750HV~	LPAG	LPDAG
(3)	S45C Equivalent	-	Treated Hardness: 45~50HRC	LPA	LPDA
(4)	S45C Equivalent	Black Oxide	Treated Hardness: 45~50HRC	LPAB	LPDAB
(5)	S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 45~50HRC Plating Hardness: 750HV~	LPAR	LPDAR
(6)	SUS304	-	-	LPAS	LPDAS
(7)	SUS304	Hard Chrome Plating Plating Thickness: 3µm or more	Plating Hardness: 750HV~	LPAD	LPDAD
(8)	SUS440C Equivalent	-	Treated Hardness: 50~55HRC	LPAC	-

**Round**

**Diamond**

Tip Shape: Select from the diagram on the right.

When L < Pitch x 2, the incomplete threaded portion (Pitch x 2) is included in Mx1.5. For Coarse Thread Pitch Dims., see P.2360.

Fully Threaded Type of L=0 w/o Pilot is available. P.1661

Polished, centering hole is sometimes not available for SUS304.

Part Number		D	D dim. Tolerance	P	B	R	G	L	M	Tightening Torque	(W)
Type	Tip										
(Round)	(Diamond)	3	-0.002 -0.008	4.00~8.00	3.5~25.0(10.0)			0~10	M3	147	1.5
LP AJ	LPDAJ	4	-0.004	5.00~9.00	3.5~25.0(10.0)			0~10	M4	333	1.8
LPAG	LPDAG	5	-0.012	6.00~10.00	3.5~30.0(10.0)			0~10	M5	676	2.2
LPA	LPDA	6		7.00~12.00	3.5~40.0(12.0)			0~10	M6	1156	3
LPAB	LPDAB	8	-0.005	9.00~15.00	3.5~40.0(15.0)			0~10	M8	2803	3.5
LPAR	LPDAR	10	-0.014	11.00~20.00	5.0~50.0(20.0)			0~20	M10	5557	4
LPAS	LPDAS	12	-0.006	13.00~20.00	5.0~50.0(20.0)			0~20	M12	9702	5
LPAD	LPDAD	16	-0.017	17.00~27.00	5.0~50.0(20.0)			0~25	M16	24108	7
LPAC		20	-0.027 -0.026	21.00~30.00	5.0~50.0(20.0)			0~25	M20	46942	9

B dimension in ( ) is for Diamond Shape.

Tightening torque (reference) is of Tightening Torque Strength Class (10.9) indicated on Technical Data P.2365. Not applicable when using locking materials or lock washers.

Ordering Example: LPAAS - P10.0 - B12.0 - R6 - L5 - MC3

D	Round Shape Unit Price							Diamond Shape Unit Price						
	(1)Treated SKS3	(2)Hard SKS3	(3)S45C	(4)S45C Black Oxide	(5)Hard S45C	(6)SUS304	(7)Hard SUS304	(1)Treated SKS3	(2)Hard SKS3	(3)S45C	(4)S45C Black Oxide	(5)Hard S45C	(6)SUS304	(7)Hard SUS304
3	LP AJ	LPAG	LPA	LPAB	LPAR	LPAS	LPAD	LPDAJ	LPDAG	LPDA	LPDAB	LPDAR	LPDAS	LPDAD
4														
5														
6														
8														
10														
12														
16														
20														

Alterations: LPAAS - P10.0 - B12.0 - R6 - L5 - MC3

Alterations	Wrench Flats	Wrench Hole (Ø3.5)	Wrench Hole (Ø2.5)	Screwdriver Slot	Thread Dia.	Relief
Code	SC	LAC	LTE	DRC	MC	NNC
Spec.	SC = 1mm increment When B ≤ 11, adds wrench flats on the tip. Not applicable to Diamond Shape. P-3 ≤ SC ≤ P-1, SC ≥ D	Adds a Ø3.5 hole. Applicable when B ≥ 10 and P ≥ 8. Not applicable to Diamond Shape.	Adds a Ø2.5 hole. Applicable when B ≥ 8 and 7 ≤ P ≤ 15. Not applicable to Diamond Shape.	Width 0.8mm Depth 1mm	D/3 ≤ MC < D MC ≥ 3 [Ordering Code] MC4 The incomplete threaded portion (Pitch x 2) is included.	Adds a relief at the thread end. Applicable when L = 0.

# Locating Pins - Tip Shape Selectable

## Tip Length Configurable - Threaded

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

Features: While it has the same shape as conventional Tip Shape Selectable Type (Shapes A and C only), its configurable range is different therefrom. Overall length of insertion guide, R length and tapered section length are configurable.

Material No.	Material	Surface Treatment	Hardness	Type
(1)	SKS3 Equivalent	-	Treated Hardness: 55~60HRC	LPALJ
(2)	SKS3 Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50~55HRC Plating Hardness: 750HV~	LPALG
(3)	S45C Equivalent	-	Treated Hardness: 45~50HRC	LPAL
(4)	S45C Equivalent	Black Oxide	Treated Hardness: 45~50HRC	LPALB
(5)	S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 45~50HRC Plating Hardness: 750HV~	LPALR
(6)	SUS304	-	-	LPALS
(7)	SUS304	Hard Chrome Plating Plating Thickness: 3µm or more	Plating Hardness: 750HV~	LPALD
(8)	SUS440C Equivalent	-	Treated Hardness: 50~55HRC	LPALC

Tip Shape: Select from the diagram on the right.

When L < Pitch x 2, the incomplete threaded portion (Pitch x 2) is included in Mx1.5. For Coarse Thread Pitch Dims., see P.2360.

Fully Threaded Type of L=0 w/o Pilot is available. P.1661

Polished, centering hole is sometimes not available for SUS304.

Part Number	Type	Tip	D	D dim. Tolerance	P	B	C	A	E	L	M	Tightening Torque				
													0.01mm Increment	0.1mm Increment	1mm Increment	Selection
LPALJ	A	C	3	-0.002 -0.008	4.00~8.00	5.0~30.0	Shape A only	Shape C only	Shape C only	Shape C 3~28	0~10	M3	147			
LPALG			4	-0.004	5.00~9.00	5.0~30.0								M4	333	
LPAL			5	-0.012	6.00~10.00	5.0~35.0								M5	676	2.2
LPALB			6		7.00~12.00	5.0~45.0								M6	1156	3
LPALR			8	-0.005	9.00~15.00	5.0~45.0								M8	2803	3.5
LPALS			10	-0.014	11.00~20.00	5.0~55.0								M10	5557	4
LPALD			12	-0.006	13.00~20.00	5.0~55.0								M12	9702	5
LPALC			16	-0.017	17.00~27.00	5.0~60.0								M16	24108	7
			20	-0.027 -0.026	21.00~30.00	5.0~60.0								M20	46942	9

Tightening torque (reference) is of Tightening Torque Strength Class (10.9) indicated on Technical Data P.2365. Not applicable when using locking materials or lock washers.

Ordering Example: LPALJA10 - P12.00 - B6.5 - C5 - A15 - E10 - L5

P	E 1mm Increment		
	A 15	A 30	A 45
5.00~8.00	4~6	3	-
8.01~12.00	6~12	4, 5	3
12.01~16.00	8~16	5~9	4, 5
16.01~20.00	10~20	7~12	5~7
20.01~25.00	12~24	8~15	6~9
25.01~30.00	14~28	10~18	7~11

D	Unit Price							
	(1)Treated SKS3	(2)Hard SKS3	(3)S45C	(4)S45C Black Oxide	(5)Hard S45C	(6)SUS304	(7)Hard SUS304	(8)SUS440C
3	LPALJ	LPALG	LPAL	LPALB	LPALR	LPALS	LPALD	LPALC
4								
5								
6								
8								
10								
12								
16								
20								

Alterations: LPALBA8 - P10.00 - B5.0 - C3 - L0 - NNC

Alterations	Wrench Flats	Wrench Hole (Ø3.5)	Wrench Hole (Ø2.5)	Screwdriver Slot	Thread Dia.	Relief
Code	SC	LAC	LTE	DRC	MC	NNC
Spec.	SC = 1mm increment When B-C or B-E ≤ 11, adds wrench flats on the tip. P-3 ≤ SC ≤ P-1, SC ≥ D	Adds a Ø3.5 hole. Applicable when B-C or B-E ≥ 10 and when P ≥ 8.	Adds a Ø2.5 hole. Applicable when B-C or B-E ≥ 8 and when 7 ≤ P ≤ 15.	Width 0.8mm Depth 1mm	D/3 ≤ MC < D MC ≥ 3 [Ordering Code] MC4 The incomplete threaded portion (Pitch x 2) is included.	Adds a relief at the thread end. Applicable when L = 0.