

Locating Pins for Jigs & Fixtures

Long Head, Set Screw Mounting

Shouldered Type

Type	Material	Hardness
LANAR (Threaded) / LATAR (Set Screws)	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
TLANAR (Threaded) / TLATAR (Set Screws)	4115 Alloy Steel	Carburized Treated Hardness: 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Threads

Reference: $\sin 15^\circ = 0.259$, $\tan 15^\circ = 0.267$

Surface Finish Relief: $6.3 / (1.6 / 0.8 / 0.4 / 0.2)$

RoHS10

$e = P/2 \tan 15^\circ + R - (R/\sin 15^\circ)$

The center hole remains.

Shouldered

Part Number	Type	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	ℓ	L ₁	ℓ ₁	H	d	R	Applicable Set Screw
Hardened (Threaded) LANAR	Hardened (Set Screw) LATAR	6	0	5.0-7.0	20-30	5 8 10	6	8	9	4	1	M5
Carburized (Threaded) TLANAR	Carburized (Set Screw) TLATAR	10	0	4.5-12.0	20-40	5 8 10 12 15	12	10	13	7	2	M6
Hard Chrome (Threaded) R-ANAR	Hard Chrome (Set Screw) R-ATAR	16	0	13.0-16.0	30-50	10 12 15 18 20	18	12	19	13	4	M8

No Shoulder Type

Type	Material	Hardness
LNNAR (Threaded) / LNTAR (Set Screws)	4137 Alloy Steel	35-40 HRC min.
TLNNAAR (Threaded) / TLNTAR (Set Screws)	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Thread

Reference: $\sin 15^\circ = 0.259$, $\tan 15^\circ = 0.267$

Surface Finish Relief: $6.3 / (3.2 / 1.6 / 0.8 / 0.4 / 0.2)$

RoHS10

$e = P/2 \tan 15^\circ + R - (R/\sin 15^\circ)$

The center hole remains.

denoted locations for surf. treated pins will be ∇^A

No Shoulder

Part Number	Type	D _{h7}	P 0.1 mm Increment	B 1 mm Increment	L Selection	ℓ	L ₁	ℓ ₁	d	R	Applicable Set Screw
Hardened (Threaded) LNNAR	Carburized (Threaded) TLNNAAR	6	0	8.0-12.0	5 8 10	6	8	8	4	3	M5
Hardened (Set Screw) LNTAR	Carburized (Set Screw) TLNTAR	10	0	12.0-20.0	5 8 10 12 15	12	10	5	7	5	M6
Hardened (Set Screw) R-NTAR	Carburized (Set Screw) TLNTAR	16	0	18.0-32.0	12 15 18 20	18	12	10	13	8	M8

Application Example: Long Type, Workpiece, Interpose

Part Number Alterations

Part Number - P - B - L - (KD, SC, MC, RTC)

Example: **LATAR8 - P6.8 - B20 - SC**

Part Number Example

Part Number - P - B - L

Example: **LATAR 10 - P7.8 - B20**
LNNAR 8 - P12.0 - B40 - L10

Alterations	Wear Groove Alteration	Flat	Wrench Flats	Thread Diameter	Upper Relief Radius	Tip Angle Change
Code	MK	KD	SC	MC	RTC	RC
Spec.	Machine 4 grooves at B Dimension. The wear and tear of the grooves indicate the degree of wears. Applicable to Hardened, Carburized and Round Shape Products only When used together with RTC, the groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm (±0.05 mm) Groove Shape: V Groove (90°)	Ordering Code: KD Machining on one side.	Ordering Code: SC Adds wrench flats. Selection: H 9 11 13 15 19 23 H 7 8 11 13 17 21	Ordering Code: MC8 Changes the thread diameter. Selection: D/3 ≤ M < D Mmin3 Applicable to Threaded type only.	Ordering Code: RTC2 Changes the relief to the following radius R. Selection: R1 R2 R3 Applicable to Shouldered Type only. RTC ≤ (H-P)/2	Ordering Code: RC60 Changes the tip angle. Selection: 60°, 90°, 120°

Locating Pins for Jigs & Fixtures

Standard (h7) & Bolt Fixing

Features: Screw Mounted Pins. Polishing Relief Groove is smaller than the conventional products to avoid a workpiece getting stuck.

Shouldered Type

Type	Shape	Material	Hardness
ELABA (Shouldered)	Round	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
ELABD (Shouldered)	Diamond	SCM415 Alloy Steel (JIS)	Carburized Treated Hardness: 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part
TELABA (Shouldered)	Round	SCM415 Alloy Steel (JIS)	Carburized Treated Hardness: 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part
TELABD (Shouldered)	Diamond	SCM415 Alloy Steel (JIS)	Carburized Treated Hardness: 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part

Reference: $\sin 15^\circ = 0.259$, $\tan 15^\circ = 0.267$

Surface Finish Relief: $6.3 / (3.2 / 1.6 / 0.8 / 0.4 / 0.2)$

RoHS10

$e = P/2 \tan 15^\circ + R - (R/\sin 15^\circ)$

Pilot hold depth if for reference.

List of Internal Thread Pilot Hole

Thread Diameter	M2	M2.6	M3	M4	M5	M6	M8	M10
Pilot Hole Diameter d	1.8	2.3	2.6	3.4	4.3	5.1	6.9	8.6
Pilot Hole Depth U	8	8.5	9.5	12	14.5	17	21	24

Shouldered

Part Number	Type	D _{h7}	P 0.1 mm Inc.	B 0.1 mm Inc.	L 1 mm Increment	ℓ	H	R	M (Coarse)	W
Hardened (Round) ELABA	Carburized (Round) TELABA	6	0	3.0-7.0	10-16	5	9	1	M3	1-2
Hardened (Diamond) ELABD	Carburized (Diamond) TELABD	10	0	4.5-12.0	15-20	8	13	2	M5	1-3
Hardened (Diamond) ELABD	Carburized (Diamond) TELABD	16	0	13.0-16.0	21-32	12	19	4	M8	5

W Dimension D8: W=2 when P>5.0, D10, 10T: W=1 when P<5.0, W=2 when 5.0≤P≤7.0, W=3 when P>7.0.

No Shoulder Type

Type	Shape	Material	Hardness
ELNBA (No Flange)	Round	4137 Alloy Steel	Treated Hardness 35-40 HRC min.
ELNBD (No Flange)	Diamond	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part
TELNBA (No Flange)	Round	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part
TELNBD (No Flange)	Diamond	SCM415 Alloy Steel	Carburized Hardness 55 HRC min. (Depth: 0.7-0.8) / Anti-Carburizing on Tapped Part

Reference: $\sin 15^\circ = 0.259$, $\tan 15^\circ = 0.267$

Surface Finish Relief: $6.3 / (3.2 / 1.6 / 0.8 / 0.4 / 0.2)$

RoHS10

$e = P/2 \tan 15^\circ + R - (R/\sin 15^\circ)$

Pilot hold depth if for reference.

List of Internal Thread Pilot Hole

Thread Diameter	M2	M2.6	M3	M4	M5	M6	M8	M10
Pilot Hole Diameter d	1.8	2.3	2.6	3.4	4.3	5.1	6.9	8.6
Pilot Hole Depth U	8	8.5	9.5	12	14.5	17	21	24

No Shoulder

Part Number	Type	D _{h7}	P 0.1 mm Increment	B 0.1 mm Increment	L 1 mm Increment	ℓ	R	M (Coarse)	W
Hardened (Round) ELNBA	Carburized (Round) TELNBA	6	0	8.0-12.0	9-16	5	3	M3	3
Hardened (Diamond) ELNBD	Carburized (Diamond) TELNBD	10	0	12.0-20.0	10-20	8	5	M5	4
Hardened (Diamond) ELNBD	Carburized (Diamond) TELNBD	16	0	18.0-32.0	10-32	12	8	M8	8

B Dimension is selectable from 5 mm - for Diamond Shape.

Part Number Example

Part Number - P - B - L

Example: **ELABA 8 - P6.8 - B14.0 - L10**
ELNBA 10 - P14.0 - B25.0 - L15

Part Number Alterations

Part Number - P - B - L - (KC, KD, SC, RTC)

Example: **ELABA10 - P7.0 - B14.0 - L12 - KD**

Application Example: Workpiece, Threaded, Bolt Fixing Type

Alterations	Grooves for Wear Sign	Flat Position	Flat Machining	Wrench Flats	Upper Relief Radius Change	Tip Angle Change
Code	MK	KC	KD	SC	RTC	RC
Spec.	Machine 4 grooves at B Dimension. The wear and tear of the grooves indicate the degree of wears. Applicable to Hardened, Carburized and Round Shape Products only When used together with RTC, the groove starts from the area of R value + 1 mm. Groove Depth: 0.2mm (±0.05 mm) Groove Shape: V Groove (90°)	Ordering Code: KC Changes the flat position to 90° from the standard position 0°. Machining on one side. Applicable to Diamond shape only.	Ordering Code: KD Machining on one side. Applicable to Round Shape.	Ordering Code: SC Adds wrench flats.	Ordering Code: RTC2 Changes the relief to the following radius R. Selection: R0.2 R2 R3 Applicable to Shouldered Type only. RTC ≤ (H-P)/2 B ≥ 5	Ordering Code: RC60 Changes the tip angle. Selection: 60°, 90°, 120°

Locating Pins/Bushings for Locating Pins

Locating Pins/Bushings for Locating Pins