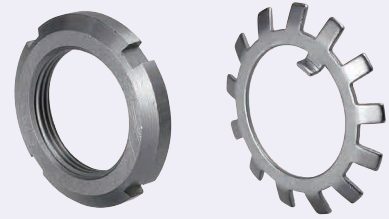


Bearing Nuts / Toothed Lock Washers for Bearings

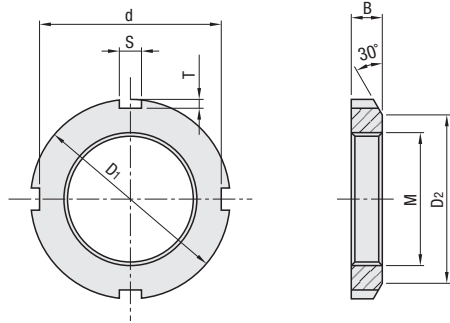
Hard Locking Bearing Nuts / Fine U Nuts®

■Features: A set of a nut and a special washer, the standard components to secure bearings.

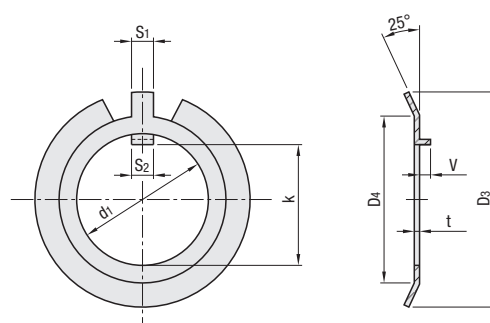


Type	Type		① Bearing Nut	② Tooth Lock Washer for Bearing
Type	①+② Set	① Only	Material	Material
Steel	JLNK	JLN	SS400	SPCC
Stainless Steel	JLNSK	JLNS	No.10-20 SUS303 No.25-50 SUS304	SUS304

① Bearing Nut



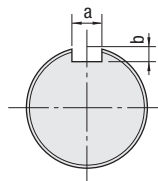
② Tooth Lock Washer for Bearing



Screw Accuracy: JIS B 0211 6H (Class 2)

Part Number	① Bearing Nut								Reference Mass (g)				JLNK	JLNSK	JLN	JLNS	
	Type	No.	MxPitch (Fine)	D1	D2	B	d	S	T	per Set (①+②)	per 1 pc. (① Only)	Unit Price					
①+② Set (Steel)	JLNK	10	10x0.75	18	13	4	14	3	2	5.0	5.3	3.7	4.1				
		12	12x1.0	22	17	4	18	3	2	8.3	8.2	6.4	6.6				
		15	15x1.0	25	21	5	21	4	2	12.5	12.7	10	10.3				
		17	17x1.0	28	24	5	24	4	2	15.5	16.3	12.4	13				
		20	20x1.0	32	26	6	28	4	2	21.5	22.8	19	19.5				
		25	25x1.5	38	32	7	34	4	2	31.4	36.6	25	31.2				
		30	30x1.5	45	38	7	41	5	2	47.8	48.3	40	41.1				
		35	35x1.5	52	44	8	48	5	2	63.4	73.7	53	64.3				
		40	40x1.5	58	50	9	53	6	2.5	97.3	97.7	85	86.5				
		45	45x1.5	65	56	10	60	6	2.5	134.2	135	119	121				
	50	50x1.5	70	61	11	65	6	2.5	162.5	161.5	146.5	147					

No.	② Tooth Lock Washer for Bearing								Dim. of Tooth Lock Washer Mounting Groove (Reference)		
	d1	k	S1	S2	t	V	D3	D4	Number of Teeth	Slot Width a	Slot Depth b
10	10	8.5	3	3	1.0	2	21	13	9	4	2
12	12	10.5	3	3	1.0	2	25	17	9	4	2
15	15	13.5	4	4	1.0	2	28	21	13	5	2
17	17	15.5	4	4	1.0	2	32	24	13	5	2
20	20	18.5	5	5	1.0	2.5	36	26	13	5	2
25	25	23	5	5	1.0	2.5	42	32	13	5	2
30	30	27.5	5	5	1.0	2.5	49	38	13	5	2
35	35	32.5	6	6	1.2	2.5	57	44	15	7	3
40	40	37.5	6	6	1.2	2.5	62	50	15	7	3
45	45	42.5	6	6	1.2	2.5	69	56	17	7	3
50	50	47.5	6	6	1.2	2.5	74	61	17	7	3



■Bearing Nuts and Toothed Lock Washers
 *These 2 items are common parts for securing bearings.
 *Nut loosening can be prevented by machining a vertical groove (Keyway) on the thread of a rotary shaft, and by tightening the nut and the shaft with the tooth lock washer.

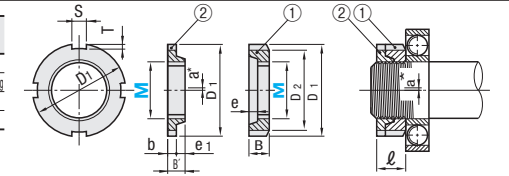
■[Mounting Procedure]

- Assemble a bearing onto a rotary shaft.
- Fit the tooth lock washer tab (S₂) in the groove of the rotary shaft (a).
- Tighten the bearing nut.
- Fold the tooth lock washer tab (S₁) to fit the groove of the bearing nut (S).

Ordering Example
 Part Number
 ①+② Set
JLNK10
 ① Only
JLN25



Type	Material	Hardness	Surface Treatment
Standard	SS400 Equivalent	-	Parker
Thin Type	S45C Thermal Refined (22-28HRC)	22-28HRC	Parker
HLB	SS400 Equivalent	-	Electroless Nickel Plating
HLBM	SUS304	-	-
HLBC	SUS304	-	-
HLBS	SUS304	-	-



*Designed Offset (a) is provided between No. 2 Nut boss.

☞ For Thin Type (HLBU), mount the second nut (upper nut) first, followed by the first one.

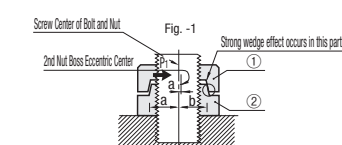
Screw Accuracy: JIS B 0211 6H (Class 2)

Part Number	Type	M	MxPitch (Fine)	① No. 1 Nut (Lower Nut)				② No. 2 Nut (Upper Nut)				Common to No. 1 and 2		Setting Height ℓ				Perpendicularity of End Face (Max.)	Mass per Set (g)	
				D1	D2	B	e	D1	B'	e1	b	S	T	Min	Max	Min	Max		Standard	Thin
<Standard>	HLB	10	10x0.75	18	13	6	2.7	18	6	2.5	3.5	3	9.5	10.5	15	17	15	17		
	HLBM	12	12x1.0	22	17	7	2.7	22	7	2.5	4.5	4	11.5	12.5	23	29	23	29		
	HLBC	15	15x1.0	25	21	8	2.7	25	8	2.5	5.5	5	13.5	14.5	43	43	43	43		
	HLBS	17	17x1.0	28	24	10	2.7	28	10	2.5	6	5	16.0	17.5	72	72	72	45		
		20	20x1.0	32	26	11	2.7	32	11	2.5	7	5	18.0	19.5	103	103	103	63		
		25	25x1.5	38	32	12	2.7	38	12	2.5	8	5	21.0	22.5	150	150	150	100		
		30	30x1.5	45	38	13	2.7	45	13	2.5	9	5	24.0	25.5	240	240	240	201		
		35	35x1.5	52	44	14	2.7	52	14	2.5	10	5	27.0	28.5	285	285	285	250		
		40	40x1.5	58	50	14	2.7	58	14	2.5	11	5	30.0	31.5	345	345	345	285		
		45	45x1.5	65	56	14	2.7	65	14	2.5	11	5	33.0	34.5	405	405	405	315		
<Thin>	HLBU	10	10x0.75	18	13	4.2	2.7	18	4.2	4.0	4.0	2.5	17.0	18.5	170	140	170	140		
		12	12x1.0	22	17	4.2	2.7	22	4.2	4.0	4.0	2.5	19.0	20.5	190	201	190	201		
		15	15x1.0	25	21	4.2	2.7	25	4.2	4.0	4.0	2.5	21.0	22.5	210	221	210	221		
		17	17x1.0	28	24	4.2	2.7	28	4.2	4.0	4.0	2.5	23.0	24.5	230	241	230	241		
		20	20x1.0	32	26	4.2	2.7	32	4.2	4.0	4.0	2.5	25.0	26.5	250	261	250	261		

Ordering Example
 Part Number
HLB35

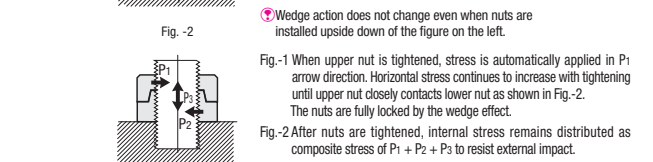
■Precautions for Use
 Machine chamfering (C=1 pitch equivalent) on the tip of male thread, whose precision grade is JIS 6g (Class 2).

■Structure and Function of Hard Locking Bearing Nut

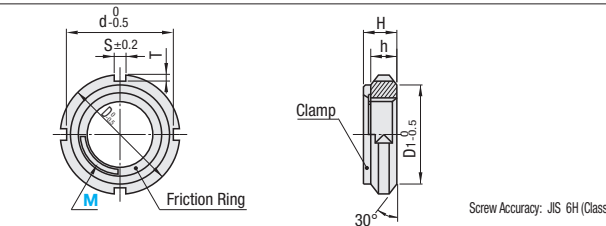


■Comparison with Conventional Products

Unlike standard bearing nut sets, no keyway machining is required for toothed washers and shafts.



Type	Material
FUNT	SS400 Equivalent
FUNTC	S45C Thermal Refined (22-28HRC)
FUNTS	SUS301

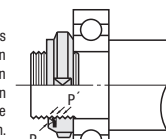


Part Number	Type	M	MxPitch (Fine)	D	D1	d	T	S	H	h	Perpendicularity of End Face (Max.)	Unit Price		
												FUNT	FUNTC	FUNTS
FUNT FUNTC FUNTS	8	8	8x0.75	16	12	13	1.5	3	5.3	±0.3	4.3			
	10	10	10x0.75	18	13.5	14.4	1.5	3	5.2	±0.3	4			
	12	12	12x1.0	22	17	18.4	1.8	4	5.4	±0.5	5			
	15	15	15x1.0	25	21	21.4	1.8	4	6.5	±0.5	6			
	17	17	17x1.0	28	24	24.2	1.9	4	6.4	±0.5	7			
	20	20	20x1.0	32	26	28.4	1.8	4	7.7	±0.5	7			
	25	25	25x1.5	38	32	34	2	5	9.1	±0.8	8			
	30	30	30x1.5	45	38	41	2	5	10.2	±0.8	9			
	35	35	35x1.5	52	44	48	2.5	6	11.2	±1.0	10			
	40	40	40x1.5	58	50	53	2.5	6	12.5	±1.0	11			

Ordering Example
 Part Number
FUNT10

■Hard Lock Structure

As shown in the figure above, stress P is caused by the spring effect when Friction Ring contacts the thread. The reaction force P' together with P presses hard upon the threads, which creates friction torque (prevailing torque) to prevent any free motion.



■Precautions for Use

- Machine chamfering (C=1 pitch equivalent) on the tip of male thread, whose precision grade is JIS 6g (Class 2).
- Use lubricant when threading in and out. (Use extra high performance lubricant when shaft hardness is low.)
- For optimal performance, ensure that the complete thread portion is to extrude by 2 pitches or more from friction ring side.
- The perpendicularity of the plane end in the above table is effective only when tightened with twice or more than prevailing torque.
- Not usable with high speed impact wrenches.
- Not usable on machined thread portion of shafts (keyway, etc.).
- Screwing in from the friction ring side is impossible.
- Do not use when the deflection of friction rings or clamp part occurs.

☞ Fine U Nut® is a registered trademark of FUJISEIMITSU CO., LTD.