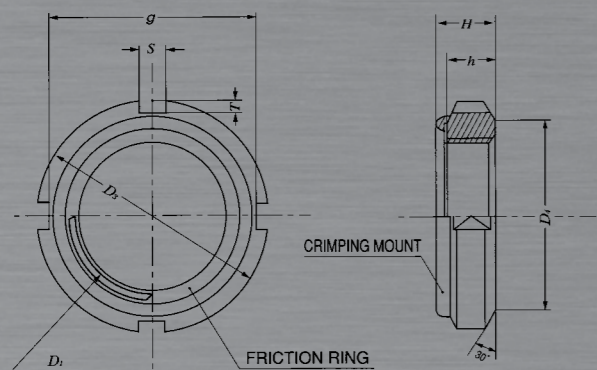


DIMENSION TABLE FOR FINE U-NUT



FINE U-NUT MATERIALS

MATERIAL	JIS	ISO	BS
SS LOW CARBON STEEL	SS400 (OR EQUIVALENT)	1.0044	43B
SC HIGH CARBON STEEL	S45C (OR EQUIVALENT)	1.0503/1.1191/1.1201	070M46/080M46/080A47
SUS STAINLESS STEEL	SUS304 (OR EQUIVALENT)	1.4301	304S31

FRICION RING: 301 STAINLESS STEEL

SIZE RANGE

SC SERIES	SS SERIES	SUS SERIES	DESIGNATION OF THREAD D1	D3	D4	g	T	S	h	H	PERPENDICULARITY OF BEARING SURFACE
FU00SC	FU00SS	FU00SUS	M 10X0.75	18	13.5	14.4	1.8	3	4	5.2	±0.3
FU01SC	FU01SS	FU01SUS	M 12X1.0	22	17	18.4	1.8	3	4	5.4	
FU02SC	FU02SS	FU02SUS	M 15X1.0	25	21	21.4	1.8	4	5	6.5	
FU03SC	FU03SS	FU03SUS	M 17X1.0	28	24	24.2	1.9	4	5	6.4	±0.5
FU04SC	FU04SS	FU04SUS	M 20X1.0	32	26	28.4	1.8	4	6	7.7	
FU05SC	FU05SS	FU05SUS	M 25X1.5	38	32	34	2	5	7	9.1	
FU06SC	FU06SS	FU06SUS	M 30X1.5	45	38	41	2	5	7	9.1	±0.8
FU07SC	FU07SS	FU07SUS	M 35X1.5	52	44	48	2	5	8	10.2	
FU08SC	FU08SS	FU08SUS	M 40X1.5	58	50	53	2.5	6	9	11.2	
FU09SC	FU09SS	FU09SUS	M 45X1.5	65	56	60	2.5	6	10	12.5	±1.0
FU10SC	FU10SS	FU10SUS	M 50X1.5	70	61	65	2.5	6	11	13.5	
FU11SC	FU11SS	FU11SUS	M 55X2.0	75	67	69	3	7	11	13.5	
FU12SC	FU12SS	FU12SUS	M 60X2.0	80	73	74	3	7	11	13.5	±0.7
FU13SC	FU13SS	FU13SUS	M 65X2.0	85	79	79	3	7	12	15	
FU14SC	FU14SS	FU14SUS	M 70X2.0	92	85	85	3.5	8	12	15	
FU15SC	FU15SS	FU15SUS	M 75X2.0	98	90	91	3.5	8	13	15.8	±1.5
FU16SC	FU16SS	FU16SUS	M 80X2.0	105	95	98	3.5	8	15	18.6	
FU17SC	FU17SS	FU17SUS	M 85X2.0	110	102	103	3.5	8	16	19.2	
FU18SC	FU18SS	FU18SUS	M 90X2.0	120	108	112	4	10	16	20.3	±1.5
FU19SC	FU19SS	FU19SUS	M 95X2.0	125	113	117	4	10	17	21.3	
FU20SC	FU20SS	FU20SUS	M 100X2.0	130	120	122	4	10	18	22.3	
FU21SC	-	-	M 105X2.0	140	126	130	4	12	18	22.3	±0.3
FU22SC	-	-	M 110X2.0	145	133	135	5	12	19	23.3	
FU23SC	-	-	M 115X2.0	150	137	140	5	12	19	23.3	
FU24SC	-	-	M 120X2.0	155	138	145	5	12	20	24.3	±1.5
FU25SC	-	-	M 125X2.0	160	148	150	5	12	21	25.4	
FU26SC	-	-	M 130X2.0	165	149	155	5	12	21	25.4	
FU27SC	-	-	M 135X2.0	175	160	163	6	14	22	26.6	±1.5
FU28SC	-	-	M 140X2.0	180	160	168	6	14	22	26.6	
FU29SC	-	-	M 145X2.0	190	171	178	6	14	24	28.6	
FU30SC	-	-	M 150X2.0	195	171	183	6	14	24	28.3	

NUT THREAD ACCURACY *Dimensions may be subject to change without notice due to our policy of product improvements ISO6H (JIS CLASS2) UNIT : mm

"remember, IEC also supply socket spanners"



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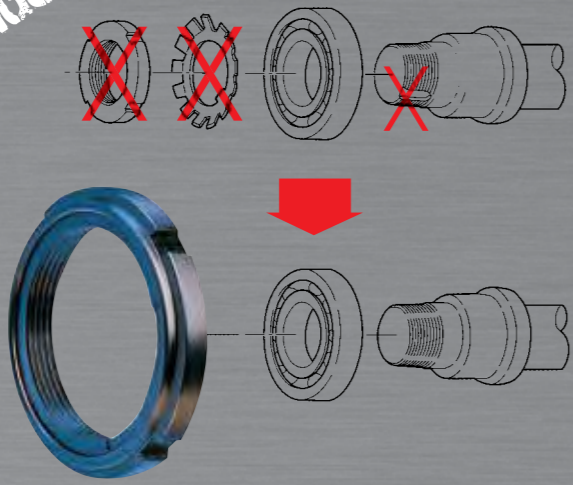
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JOIN THE REVOLUTION FOR SECURE FASTENING OF BEARINGS

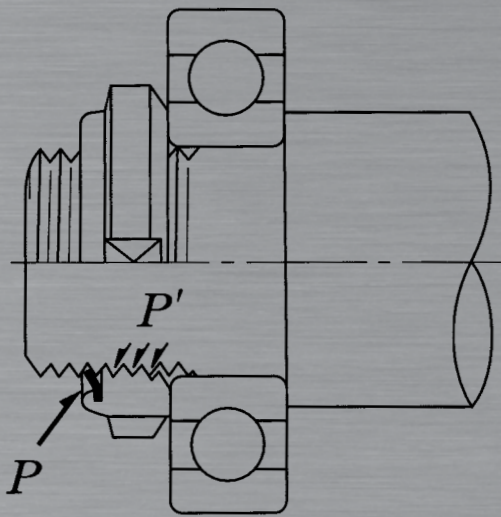


INTRODUCING... FINE U-NUT

The **Fine U-Nut** was developed to simplify the assembly and reduce costs involved in securing Ball bearings. The manufacturer has more than 30 years experience in lock nut technology and their factory is ISO 9001 approved.

CONSTRUCTION AND FUNCTION

The **Fine U-Nut** is a one piece item where the locking function is performed by a spring peened into the top of the nut. In use the spring bears on the flank of the shaft thread with force (P) generating reaction force (P') in the screw threads with a resulting high friction torque (prevailing torque). The nut therefore remains locked in position.



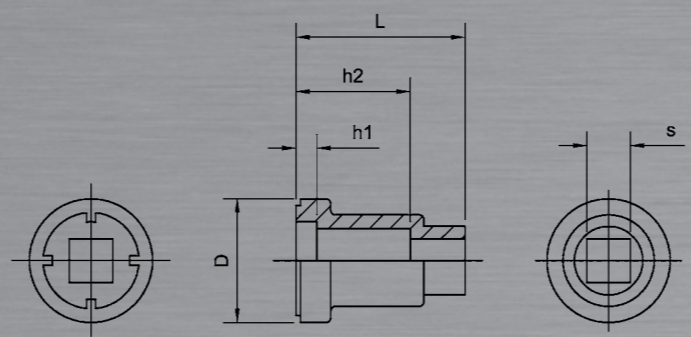
KEY BENEFITS

- ★ Unique slim body design
- ★ Secure locking without keyway and tab washer
- ★ Improved shaft strength and balance
- ★ Simple infinite adjustment
- ★ Re-usable up to 100 times
- ★ Sizes from M10 to M150
- ★ Carbon, high carbon and stainless steel versions
- ★ Resists vibration and shock
- ★ Equally effective for rotation in either direction even with rapid reversals
- ★ One piece construction reduces stock and allows simpler, quicker assembly

PROOF LOAD AND MAXIMUM TIGHTENING TORQUE

PART No.	PREVAILING TORQUE (Nm)	SS (LOW CARBON STEEL)		SC (HIGH CARBON STEEL)		SUS (STAINLESS STEEL)	
		PROOF LOAD (N)	MAX TIGHTENING TORQUE (Nm)	PROOF LOAD (N)	MAX TIGHTENING TORQUE (Nm)	PROOF LOAD (N)	MAX TIGHTENING TORQUE (Nm)
FU00	1.4	9500	13.3	12860	17.6	7710	8.9
FU01	2.2	11080	18.9	15000	24.8	9000	12.7
FU02	3.1	17810	36.7	24120	48.6	14470	24.3
FU03	3.7	20180	46.9	27330	62.2	16400	31.0
FU04	4.7	29020	77.8	39300	103.7	23580	50.9
FU05	9.8	41160	139.4	55740	185.3	33440	91.7
FU06	12.7	49400	199.4	66890	265.5	40130	130.6
FU07	16.2	66500	309.4	90050	413.3	54030	201.5
FU08	19.6	87080	458.4	117920	613.9	70750	296.9
FU09	23.5	109720	645.6	148580	865.9	89150	416.6
FU10	29.4	134580	877.2	182250	1177.5	109350	565.2
FU11	35.3	145140	1041.1	196540	1397.3	117920	670.8
FU12	41.2	158330	1238.1	214410	1662.1	128640	797.6
FU13	50.0	188680	1595.2	255500	2142.5	153300	1026.5
FU14	54.9	203190	1847.0	275160	2481.8	165090	1187.4
FU15	66.6	237500	2310.9	321620	3105.9	192970	1484.9
FU16	70.6	295560	3049.8	400230	4104.9	240140	1953.2
FU17	76.4	336460	3679.8	455620	4956.0	273370	2353.5
FU18	83.3	356250	4123.1	482430	5554.0	289450	2636.2
FU19	88.2	401110	4889.4	543180	6590.0	325900	3122.3
FU20	96.0	448610	5748.4	607500	7750.5	364500	3668.1

SOCKET TOOLS FOR FUJI LOCKNUTS



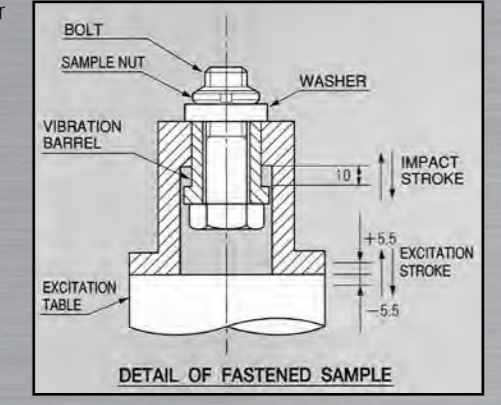
Order Ref	Nut	D	L	h1	h2	s
FU00	M10 x 0.75	23	36	4.4	24	9.52 (3/8")
FU01	M12 x 1.0	27	37	4.6	25	
FU02	M15 x 1.0	31	38	5.7	26	
FU03	M17 x 1.0	34	39	5.8	27	
FU04	M20 x 1.0	38.5	40	6.9	28	
FU05	M25 x 1.5	45.5	46.5	8.1	30.5	12.7 (1/2")
FU06	M30 x 1.5	53	50	8.1	34	
FU07	M35 x 1.5	60.5	53.5	9.2	37.5	
FU08	M40 x 1.5	67	57	10.2	41	
FU09	M45 x 1.5	74.5	60.5	11.2	44.5	
FU10	M50 x 1.5	80	64	12.2	48	

* Sizes available up to M50
* Quotation/dimensions for larger sockets can be supplied on request

AXIAL IMPACT VIBRATION TEST

TEST CONDITIONS

Machine: NAS high speed screw loosening tester
 Sample size: M20 x 1.0
 Frequency: 21 Hz
 Excitation stroke: 11 mm
 Impact stroke: 10 mm
 Vibrating acceleration of excitation table: 10 G
 Test time: 60 min
 Direction of Impact: Bolt axis direction
 Clamping torque: 53.9 N.m (550 kgf-cm)



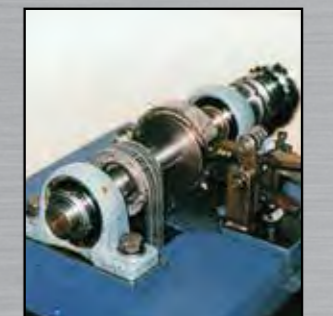
TEST RESULTS

SAMPLE NUT	EXCITATION TIME (MIN)						TEST RESULTS
	10	20	30	40	50	60	
STANDARD BEARING NUT WITH TONGUED WASHER	LOOSENESS	DAMAGED WASHER (11 min)					NUT CAME OFF
FINE U-NUT						NO EFFECT	

ROTATIONAL LIFE TEST

TEST CONDITIONS

Sample size: M55 x 2.0
 Speed of Revolution: 2,300 rpm
 Testing cycles: ONE CYCLE (FORWARD ROTATION, STOP, REVERSE ROTATION, STOP); 10 SEC
 Stopping time: FOR FORWARD ROTATION: 0.30 SEC
 FOR REVERSE ROTATION: 0.27 SEC



SAMPLE NUT	INTERNAL FORCE APPLIED TO THE NUT DURING STOPPING	
	INERTIAL FORCE : N.m (Kgf-cm)	
	FOR FORWARD ROTATION	FOR REVERSE ROTATION
STANDARD BEARING NUT	0.14 (1.42)	0.15 (1.57)
FINE U-NUT	0.15 (1.52)	0.17 (1.69)

RESULTS		
SAMPLE NUT	SAMPLE NO.	RESULT OF ENDURANCE TEST
STANDARD BEARING NUT & WASHERS	1	WASHER DAMAGED AND NUT CAME OFF AT APPROX. 110,000 CYCLES
	2	WASHER DAMAGED AND NUT CAME OFF AT APPROX. 330,000 CYCLES
FINE U-NUT	3	NO CHANGE AFTER 500,000 CYCLES
	4	NO CHANGE AFTER 500,000 CYCLES



An interesting point to note is the difference in failure times between the two lock-washers caused by inconsistent assembly. This is avoided by using the Fine U-Nut.

