



Products

Guide



Revolution by
FINE U-NUT®



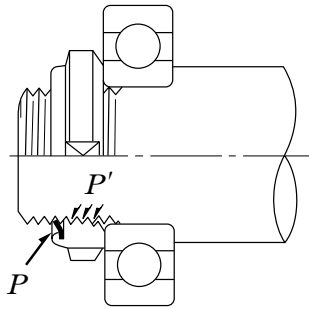
FINE U-NUT®
Fuji Seimitsu Co., Ltd.

Revolution for Fastening of Bearings !

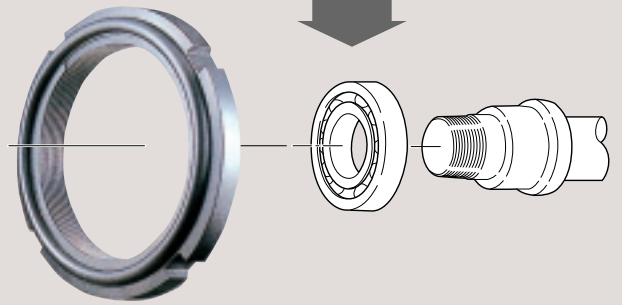
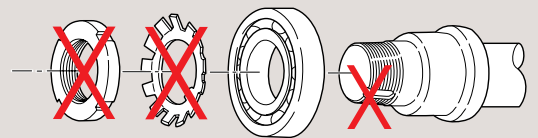
FINE U-NUT

FINE U-NUT was developed in order to minimize the costs involved in securing bearings by **Fuji Seimitsu Co., Ltd.** a pioneer in lock nut technology. With more than 30 years experience in the manufacture of **FUJILOK U-NUT** we can supply solutions to your most difficult applications.

CONSTRUCTION AND FUNCTION

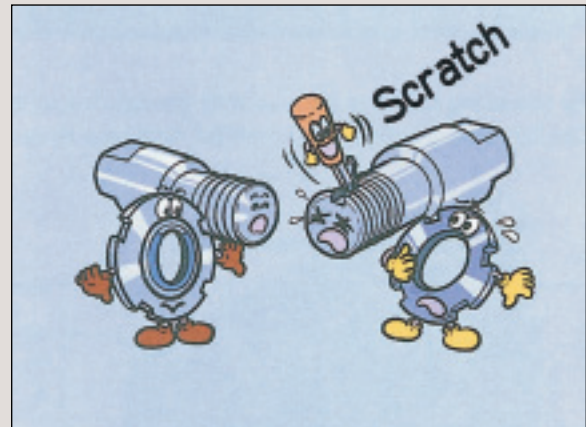


The **FINE U-NUT** is a one piece item where the locking function is performed by a spring peened into the top of the nut. In use the spring bears on the flank of the shaft thread with force (P) generating reaction force (P') in the screw threads with a resulting high friction torque (prevailing torque).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



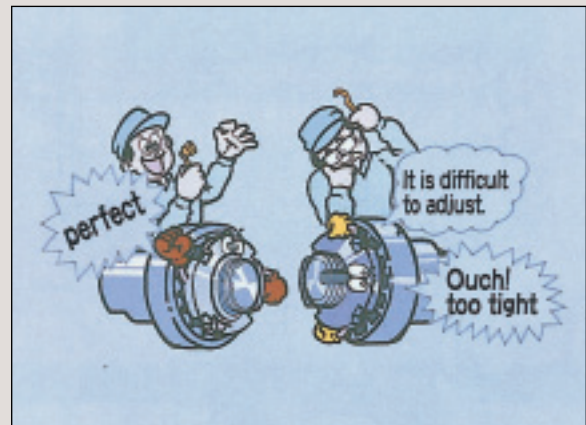
LABOR SAVING

MACHINING OF A SHAFT KEYWAY IS ELIMINATED.



SIMPLIFIES ASSEMBLY

NO TAB WASHER IS REQUIRED REDUCING COSTS AND REMOVING POSSIBILITY OF THE TAB WASHER BEING INCORRECTLY INSTALLED.



WORKABILITY

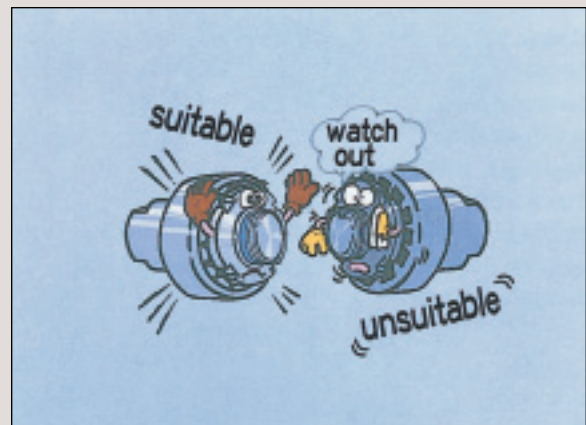
NO SKILL OR TECHNIQUE IS REQUIRED FOR ASSEMBLY.

FUNCTIONALITY

FINE ADJUSTMENTS ARE EASILY ACHIEVED TO OBTAIN OPTIMUM BEARING ASSEMBLY.

SHAFT BALANCING

LACK OF KEYWAY AND DESIGN OF NUT ENSURES SHAFT IS PERFECTLY BALANCED.

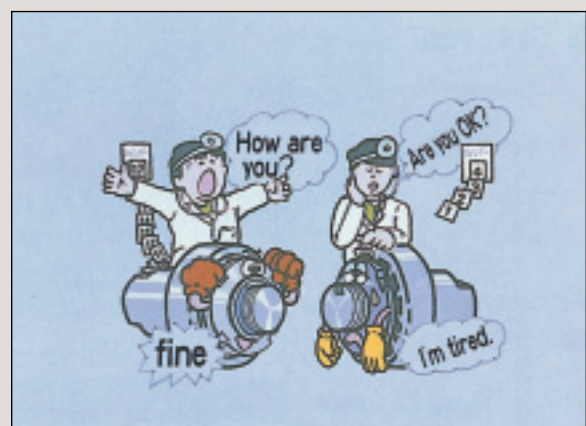


WEIGHT SAVING

THINNER WALL HOLLOW SHAFT CAN BE USED COMPARED TO THOSE WHERE A KEYWAY IS REQUIRED THEREBY SAVING WEIGHT.

REUSABLE

THE **FINE U-NUT** IS A RE-USEABLE ALL-METAL SELF LOCKING NUT.



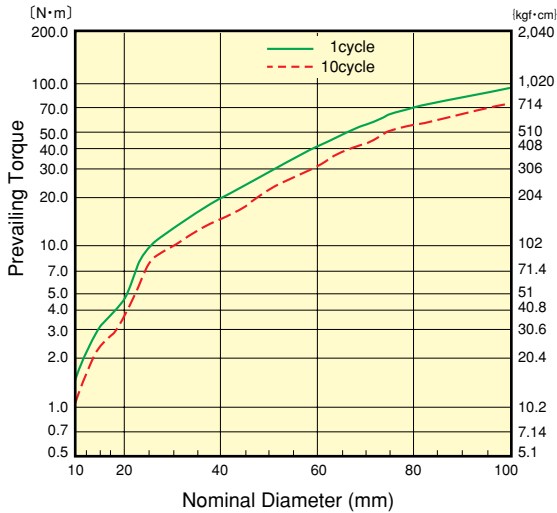
ECONOMICAL EFFICIENCY

INVISIBLE COSTS ARE REDUCED AND TOTAL COST REDUCTION IS ACHIEVED.

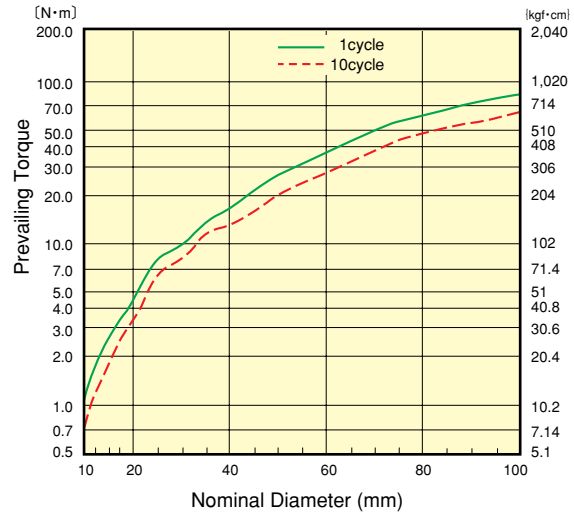
PREVAILING TORQUE

The prevailing torque is generated by the reaction to the spring acting on the shaft threads.
(The following graphs can be used for reference when using lubricated fasteners.)

Maximum install torque



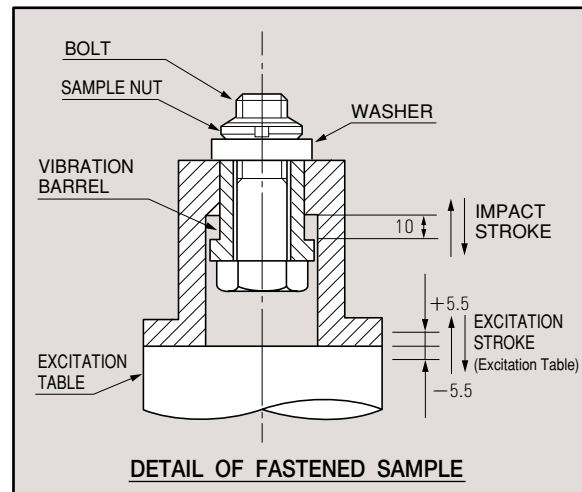
Minimum removal torque



AXIAL IMPACT VIBRATION TEST

Test conditions

Sample size	M20×1
Frequency	1,278 cpm
Excitation stroke	11 mm
Impact stroke	10 mm
Vibrating acceleration of excitation table	10 G
Excitation 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 NUT with WASHER	LOOSENESS △ — × DAMAGED WASHER (11 min) 20°						NUT CAME OFF
FINE U-NUT	[Red bar indicating acceptable results]						ACCEPTABLE

ROTATIONAL LIFE TEST

Test conditions

Sample size M55×2
 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.



EXTERNAL VIEW OF TESTING MACHINE

Inertial force applied to the nut during stopping

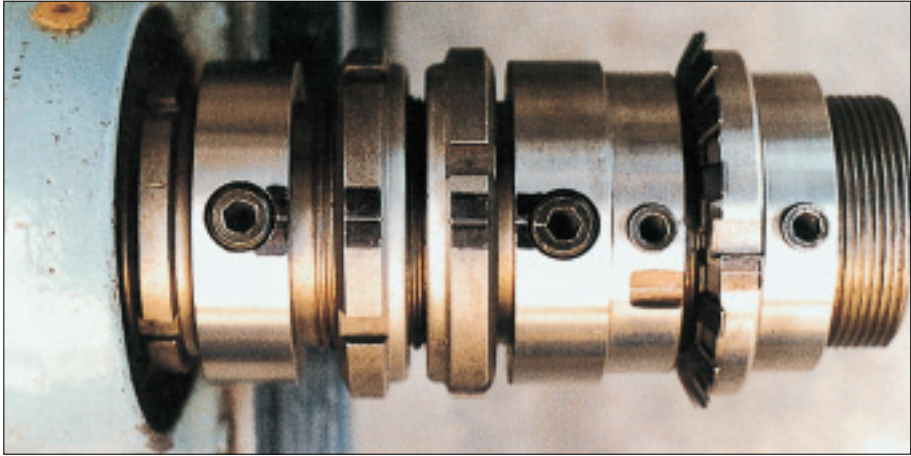
SAMPLE	INERTIAL FORCE : N·m {kgf·cm}	
	FOR FORWARD ROTATION	FOR REVERSE ROTATION
STANDARD BEARING NUT	0.14 {1.42}	0.15 {1.57}
FINE U-NUT	0.15 {1.52}	0.17 {1.69}

Results

SAMPLE	SAMPLE NO.	RESULT OF ENDURANCE TEST
STANDARD NUT with WASHER	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	

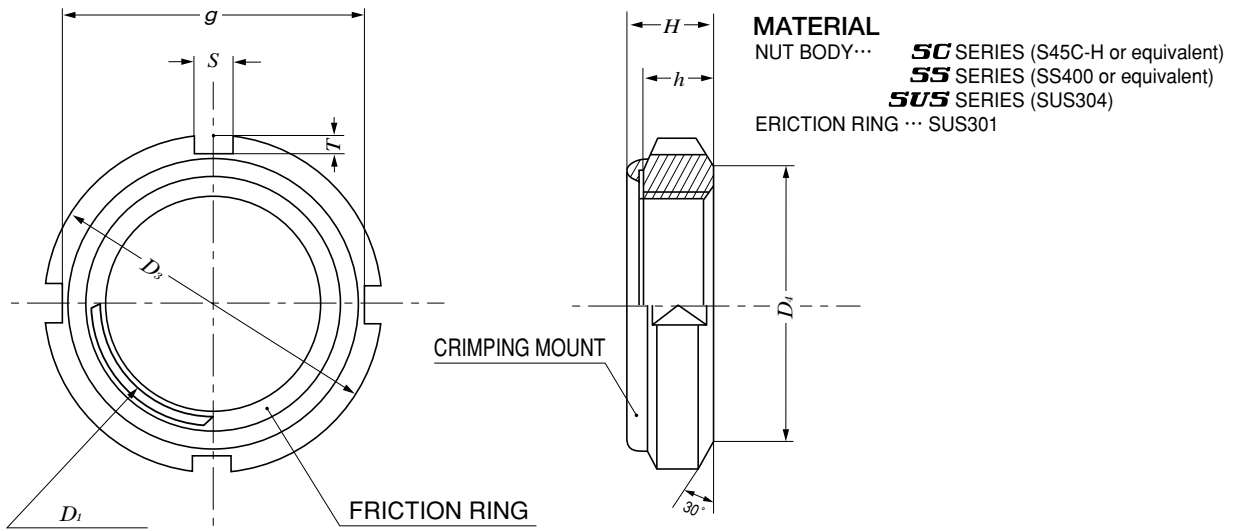


EXTERNAL VIEW OF DAMAGED AND DETACHED WASHER (SAMPLE No.2)



FASTENED CONDITION OF **FINE U-NUT** AFTER 330,000 ENDURANCE CYCLES

DIMENSION TABLE FOR FINE U-NUT



THREAD ACCURACY : ISO6H (JIS CLASS2) UNIT : mm

SC SERIES	SS SERIES	SUS SERIES	DESIGNATION OF THREAD D ₁	D ₃		D ₄		g	T	S	h		H	PERPENDICU- LARITY OF BEARING SURFACE
				0	-0.5	0	-0.5				0	-0.5		
FU00SC	FU00SS	FU00SUS	M 10×0.75	18		13.5		14.4	1.8	3	4	5.2	±0.3	0.05
FU01SC	FU01SS	FU01SUS	M 12×1.0	22		17		18.4	1.8	3	4	5.4		
FU02SC	FU02SS	FU02SUS	M 15×1.0	25		21		21.4	1.8	4	5	6.5		
FU03SC	FU03SS	FU03SUS	M 17×1.0	28		24		24.2	1.9	4	5	6.4	±0.5	
FU04SC	FU04SS	FU04SUS	M 20×1.0	32		26		28.4	1.8	4	6	7.7		
FU05SC	FU05SS	FU05SUS	M 25×1.5	38		32		34	2	5	7	9.1		
FU06SC	FU06SS	FU06SUS	M 30×1.5	45		38		41	2	5	7	9.1	±0.8	
FU07SC	FU07SS	FU07SUS	M 35×1.5	52		44	0	48	2	5	8	10.2		
FU08SC	FU08SS	FU08SUS	M 40×1.5	58		50	-0.5	53	2.5	6	9	11.2		
FU09SC	FU09SS	FU09SUS	M 45×1.5	65	0	56		60	2.5	6	10	12.5	±1.0	
FU10SC	FU10SS	FU10SUS	M 50×1.5	70	-0.5	61		65	2.5	6	11	13.5		
FU11SC	FU11SS	FU11SUS	M 55×2.0	75		67		69	3	7	11	13.5		
FU12SC	FU12SS	FU12SUS	M 60×2.0	80		73		74	3	7	11	13.5	±1.5	
FU13SC	FU13SS	FU13SUS	M 65×2.0	85		79		79	3	7	12	15		
FU14SC	FU14SS	FU14SUS	M 70×2.0	92		85		85	3.5	8	12	15		
FU15SC	FU15SS	FU15SUS	M 75×2.0	98		90		91	3.5	8	13	15.8	±1.5	
FU16SC	FU16SS	FU16SUS	M 80×2.0	105		95		98	3.5	8	15	18.6		
FU17SC	FU17SS	FU17SUS	M 85×2.0	110		102		103	3.5	8	16	19.2		
FU18SC	FU18SS	FU18SUS	M 90×2.0	120		108		112	4	10	16	20.3	±1.5	
FU19SC	FU19SS	FU19SUS	M 95×2.0	125		113		117	4	10	17	21.3		
FU20SC	FU20SS	FU20SUS	M100×2.0	130		120		122	4	10	18	22.3		
FU21SC	—	—	M105×2.0	140		126		130	4	12	18	22.3	±1.5	
FU22SC	—	—	M110×2.0	145		133		135	5	12	19	23.3		
FU23SC	—	—	M115×2.0	150		137	0	140	5	12	19	23.3		
FU24SC	—	—	M120×2.0	155		138	-0.75	145	5	12	20	24.3	±1.5	
FU25SC	—	—	M125×2.0	160		148		150	5	12	21	25.4		
FU26SC	—	—	M130×2.0	165		149		155	5	12	21	25.4		
FU27SC	—	—	M135×2.0	175		160		163	6	14	22	26.6	±1.5	
FU28SC	—	—	M140×2.0	180		160		168	6	14	22	26.6		
FU29SC	—	—	M145×2.0	190		171		178	6	14	24	28.6		
FU30SC	—	—	M150×2.0	195		171		183	6	14	24	28.3		

* Dimensions may be subject to change without notice due to our policy of product improvements.

NOTES ON USE

FINE U-NUT ARE USED FOR FASTENING CRITICAL COMPONENTS.
WHEN USING **FINE U-NUT**, STRICT COMPLIANCE WITH THE FOLLOWING IS REQUIRED.



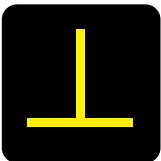
- A lead in chamfer equivalent to one thread pitch is required.
The screw thread should be to ISO 965. (TOLERANCE CLASS 6g)



- Lubricate the shaft before assembly or removal of the nut. With shafts of low hardness use a high performance lubricant.



- To maximise effectiveness ensure there are at least two full threads beyond the friction ring.



- The squareness specified for the mating face is achieved with a tightening torque equivalent to x2 the prevailing torque.



- Do not use a high rotational speed impact wrench.



- Do not use the nuts on shafts with keyways.



- Do not screw in the nut from the friction ring side.



- Stop using the nut when excessive deformation or other fault is found in the friction ring and the clamp.



- For severe or unusual applications please ask for our advice.



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