

# Under Hole Nut



PAT. P.

(U. H. N)

It doesn't loosen . . . . .

It doesn't rust . . . . .

Lightness . . . . .

## Content (Each type)

: Butterfly type U.H.N(standard type)

- \* Conclusion is easy. (Twists and push OK)
- \* A proper value of tightening torques is value of torques that side pressure runs idle.

: NO2 U.H.N-M(Metal insert type)

- \* 「I want to tighten at a metallic level.」 Born type of answering demand/

: NO3 U.H.N-P&CP(Push type & Cap type)

- \* Push type only of pushing
- \* It doesn't loosen easily.
- \* Mischief prevention · Divides is unnecessary.

6-7-31 Sekime Jyoto-ku Osaka city Osaka Japan



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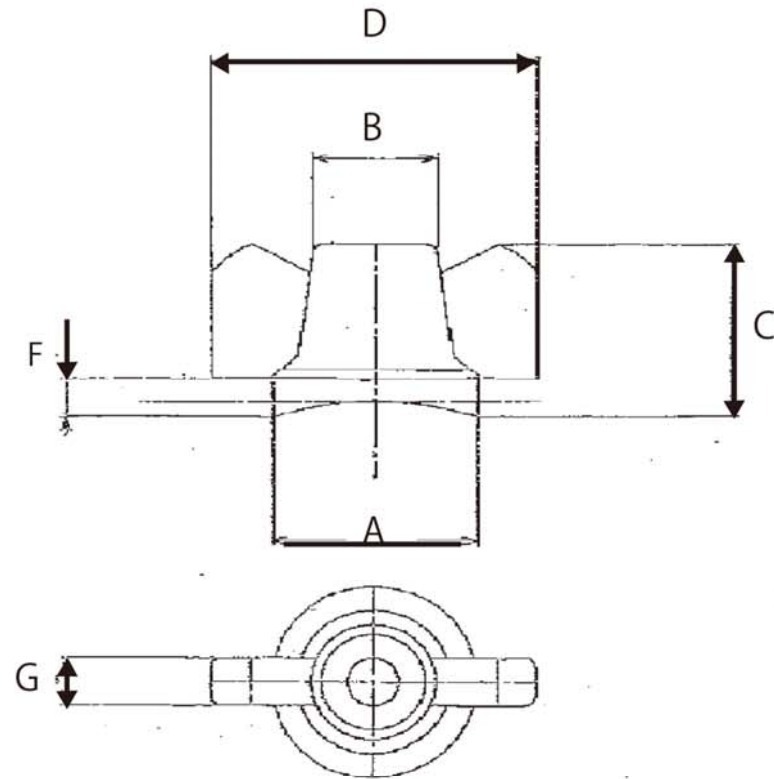
Project development Sales Department

Tukahara · Yamada

TEL+81-6-6939-7351 FAX+81-6-6939-7524

E-mail :info@aoyama-kohaze.com

## The Under Hole Nut.



	A	B	C	D	G
M 4(M 3)	Φ12	Φ7	11	19	2.5
M 5	Φ16	Φ10	14	25	3.5
M 6	Φ20	Φ12	18	32	4.5
M 8	Φ25	Φ17	22	41	6.0

:S(soft)type ——— Low load press-fitting type.

:R(Regular)type — Regular load press-fitting type.

# Under Hole Nut

Is . . .

## Feature

- : Conclusion is easy. (Twists and push OK.)
- : Lightness.
- : It doesn't loosen.
- : It doesn't rust.
- : Waterproof property · Dustproof preeminence.
- : It doesn't corrode between potential.
- : The management of an over torque is unnecessary.
- : Effect of insulation.
- : The effect of preventing a standard nut from dropping is preeminent.
- : Other

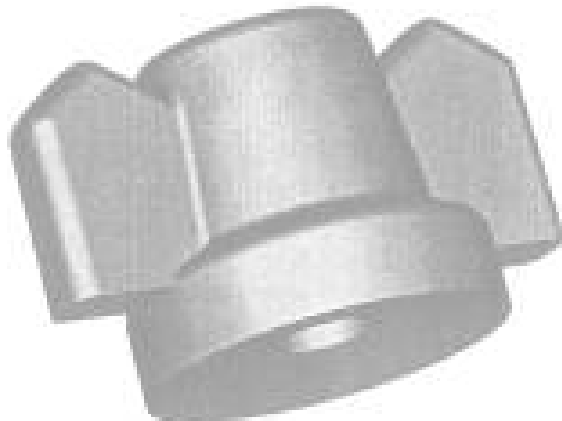
## Use

- : Car relation.
- : Electric relation.
- : Farming tool relation.
- : Power tool relation.
- : Construction relation.
- : Heavy & Light electric relation.  
(Antenna(& BS too) · Solar battery · LED relation Other.)
- : Ship relation.
- : Automatic machine tool relation.
- : Other.

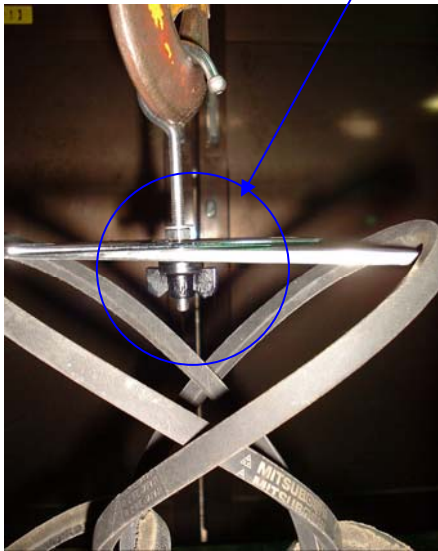
# Under Hole Nut (Elastomer)

(Loose stop, Others)

One example of product



Before Pull by tension test of U.H.N



U.H.N pull by tension testing (Load 50kg)



Waterproof test

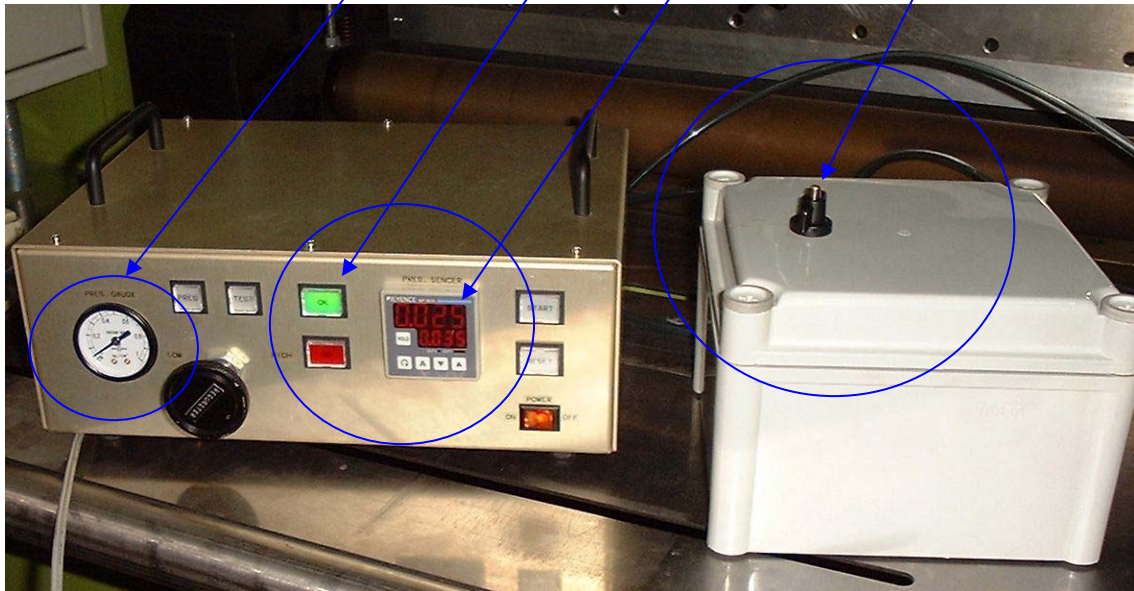
up)

Pressure gauge

Pressure value setting (0.025kg-cm

OK Lamp lighting

Test state



# Under Hole Nut

## Resistance to medicine of U.H.N

Medicine	Room temperature 2 3 °C	
	Result of soaked it for seven days.	
ASTM No.1, No.2, No/3.	Stability	(Change rate of volume 0~3%)
Diesel fuel oil.	Stability	(Change rate of volume 0~3%)
Caustic soda 10% solution.	Stability	(Change rate of volume 0~3%)
Sulfuric acid · Hydrochloric acid 3N	Stability	(Change rate of volume 0~3%)
Ozone.	Stability	(Change rate of volume 0~3%)
Salt water.	Stability	(Change rate of volume 0~3%)

# Under Hole Nut

## Mechanical character of U.H.N

(Reference data)

Size	Tightening torque value (kgf-cm)	Idling torque value (kgf-cm)	Press-fitting power (k g)	Press-fitting value (kg/cm)
M5---S(Soft) ①	0.5	5.0	11.0	0.025UP (OK)
②	0.5	5.0	10.0	0.025UP (OK)
③	0.5	4.0	11.0	0.025UP (OK)
M5---R(Regular)①	2.0	7.0	20.0	0.025UP (OK)
②	2.0	8.0	21.0	0.025UP (OK)
③	2.0	8.0	20.0	0.025UP (OK)
M6---S(soft) ①	2.0	7.0	20.0	0.025UP (OK)
②	2.0	7.0	20.0	0.025UP (OK)
③	2.0	7.0	20.0	0.025UP (OK)
M6---R(Regular)①	10.0	15.0	30.0	0.025UP (OK)
②	9.0	15.0	30.0	0.025UP (OK)
③	10.0	14.0	31.0	0.025UP (OK)

It soaked it to seawater for three weeks.

[Rust is generated in the Butterfly bolt part.]



The U.H.N is detached and the state of the rust of the following butterfly bolt.

(Rust has not been generated in the U.H.N part.)



## Test piece & Jig

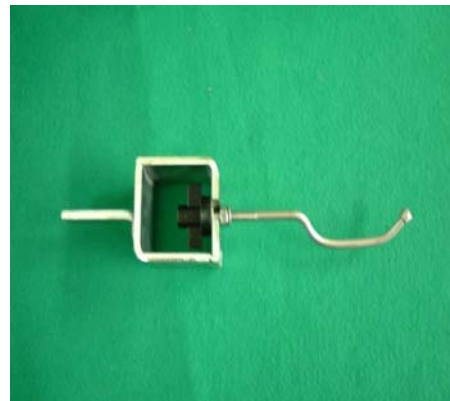


## State after examination

Normal Jig (23°C)  
& High Jig (70°C)



For (-20°C)



## PART 2

## New Type

## Under Hole Nut

[Metal Insert Type UHN=M]

PAT. P.

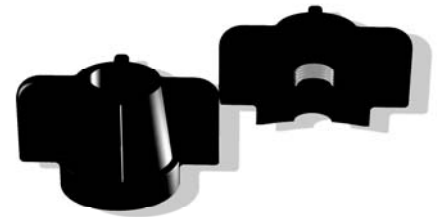
Loose prevention Nut made of elastomer that the maximum destruction torque is 11.5 N.m.

Born new item satisfies the demand that it wants to [tighten like the metal](#).

The feature of the new item is that the following functions improves.

- Strength of tightening torque
- Loose prevention
- Strength of axial tension
- Strength in shear

This is greatly excellent than other loose prevention Nut.



## To Customer

Please see the following tables and please think about use and the usage development together.

Outcome by NS Type testing machine of High-speed Screw vibration loosening. (unit=N.m)

tightening torque 5.2N.m ( Examination sample Various For M6 Loose prevention nut)

Excitation time Kind of nut	30 seconds	60 seconds	300 seconds	600 seconds
	UHN Only this goods 1.5N.m	○	○	○
UHN-M	○	○	○	○
Nut with [inpane]	×	—	—	—
Nut with Nylon	○	×	—	—
Standard nut double	fell off	—	—	—

○=The one that doesn't bounce. ×=The one that bounce

\*UHN is tightening torque 1.5N.m because low torque specification.

# Under Hole Nut

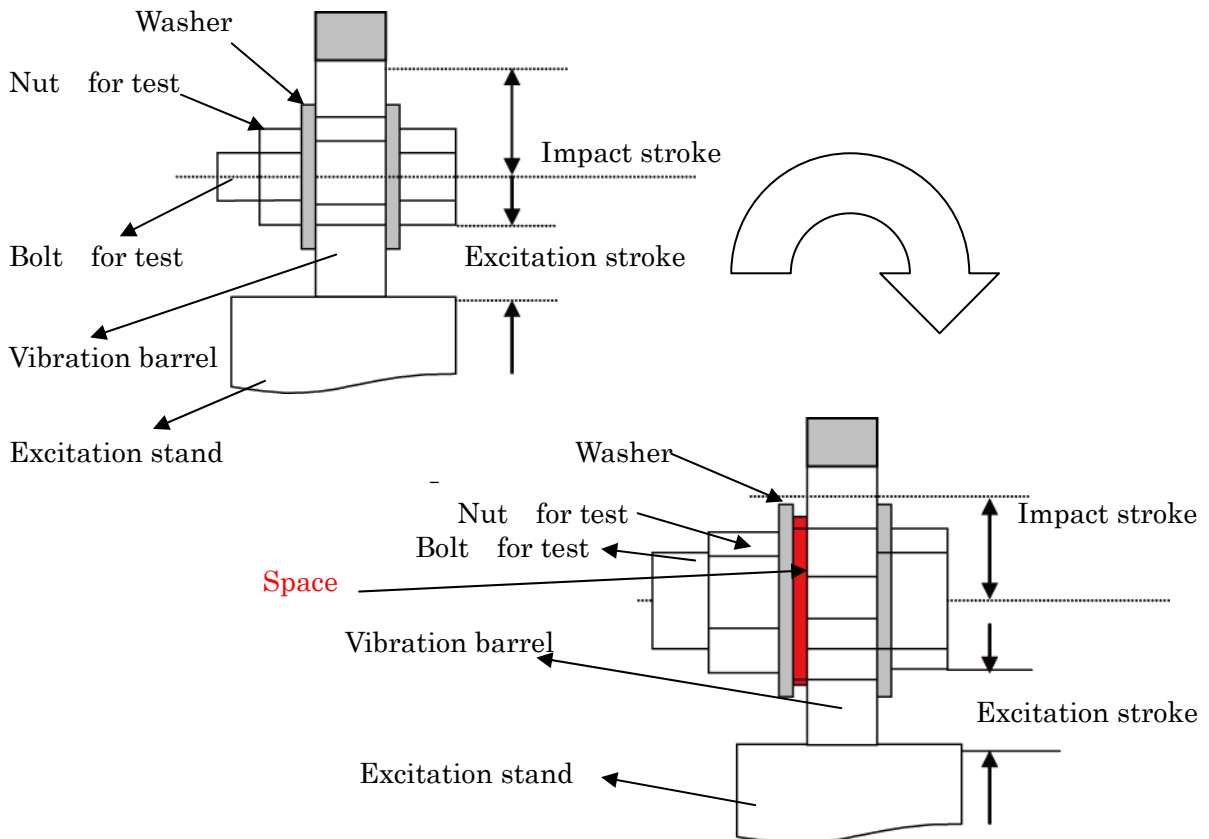
[Metal Insert Type UHN=M] PAT. P.

NS Type Rough sketch of testing machine of High-speed Screw vibration loosening

**Vibration condition**

Vibration frequency : 1780rpm  
 Excitation stand stroke : 11mm  
 Impact stroke : 19mm  
 Vibration direction : Vertical direction (Re-vibration)

It judges it from space of the right side of figure below.



Please contact me by fax if it is interested in the Under Hole Nut Insert Type.



Company name		
Post		
Name of the contact person		
TEL		FAX
E-mail		
About this product / <input type="checkbox"/> Material hope / <input type="checkbox"/> the visit is hoped for to the explanation.		

6-7-31 Sekime Jyoto-ku osaka city osaka Japan



**AOYAMA Metal Industry CO.,LTD**

Project development Sales Department

TEL06-6939-7351 FAX06-6939-7524

E-mail :info@aoyama-kohaze.com

the person in charge : tukahara/yamada

# PART 3

# New Type

Made of elastomer Nut without screw that uses elastic body

# Under Hole Nut<sup>®</sup>

「Push type (UHN-P)」 PAT.P    「Push type (UHN-CP)」 PAT.P

## CONCEPT

*I want to tighten easily.*

*It doesn't loosen easily when tightening once.*

*Mischief prevention*

*It is possible to correspond to various demand shape.*



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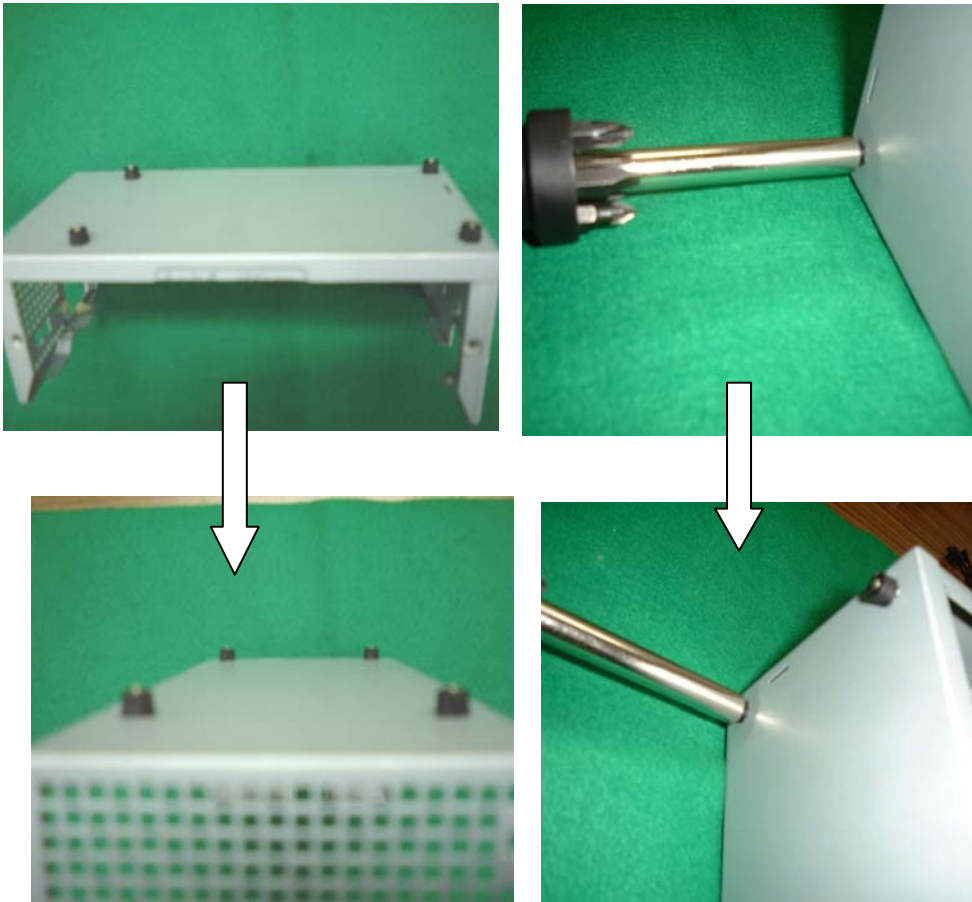
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<http://aoyama-kohaze.com>

# Push type(U.H.N-P)

## [Usage example]

It installed in the power supply box.   It installed with the Treatment device.



## Port diameter size( Sign● )

Port diameter	M1.7 用	M2.用	M2.5(2.6)	M3 用	M4 用	M5 用
UHN-P	●	●	●	●	●	●
UHN-CP	It is examining	It is examining	It is examining	●	●	It is examining

## A table according to the grade of The U.H.N (A volume rate of change.)

Evaluation : Stability (A volume rate of change 0~3%) : slightly stable (A volume rate of change 4~15%)

Oiliness-resistant · Medicine characteristics-resistant · Ozone characteristics-resistant are good.(23°C I soak it for seven days.)

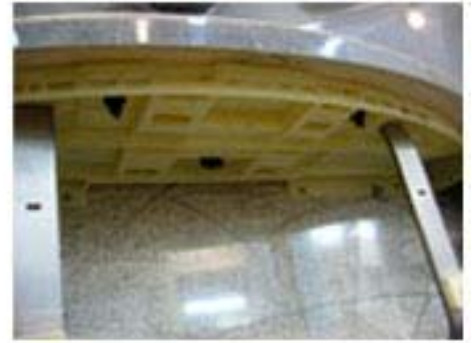
No.	Medicine name	A type	B type	C type
1	Ammonia	Stability	Stability	Stability
2	ASTM No.1	Stability	Stability	Stability
3	ASTM No.2	Stability	Stability	Stability
4	ASTM No.3	Stability	Stability	Stability
5	ASTM Fuel A	Stability	Stability	Stability
6	Ammonium chloride 10%	Stability	Stability	Stability
7	Calcium chloride 10%, 40% Solution	Stability	Stability	slightly stable
8	Magnesium chloride 10%, 30% Solution	Stability	Stability	slightly stable
9	Hydrochloric acid 3N	Stability	Stability	Stability
10	Ozone	Stability	Stability	Stability
11	Hydrogen peroxide 3%	Stability	Stability	Stability
12	Caustic potash 3N	Stability	Stability	Stability
13	Caustic soda 3N Solution	Stability	Stability	Stability
14	Calcium soap	Stability	Stability	Stability
15	Water for industrial use	Stability	Stability	Stability
16	Brine solution (10%)	Stability	Stability	Stability
17	Distilled water	Stability	Stability	Stability
18	Petroleum	Stability	Stability	Stability
19	Petroleum ether	Stability	Stability	Stability
20	Diesel fuel oil	Stability	Stability	slightly stable
21	Sodium soap	Stability	Stability	Stability
22	Propane gas	slightly stable	slightly stable	slightly stable
23	Butane gas	slightly stable	slightly stable	slightly stable
24	Methane	slightly stable	slightly stable	slightly stable
25	Sulfuric acid 3N	Stability	Stability	Stability

■ Performance list according to the type of U.H.N materials ■

Type Performance	A	B	C
Water resistance.	★ ★	★ ★ ★	★ ★ ★
Warm water characteristics.	★	★ ★	★ ★ ★
Fungosity-resistant.	★	★	★ ★ ★
Cold resistance.	★	★ ★	★ ★ ★
Heat resistance.	★ ★	★ ★ ★	★
Resistance to oil	★ ★ ★	★ ★ ★	★ ★
Price.	★ ★ ★	★ ★	★
Specific gravity.	1.20~1.23	1.14~1.24	1.08~1.20
The use situation.	I use it from the first.(Black.)	Undecided.	Use spot material in 2005/7 (White.)

## Usage example of U. H. N

- a modular bath -YAMAHA Living-



- Truck



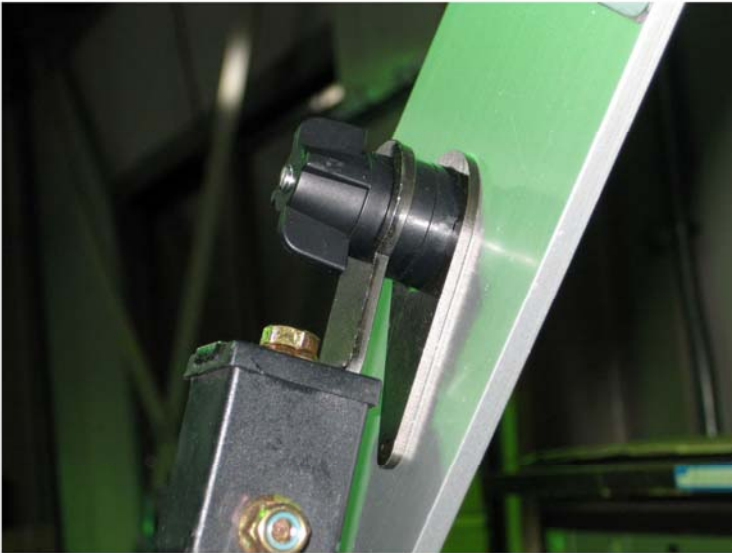
- Industrial sewing machine



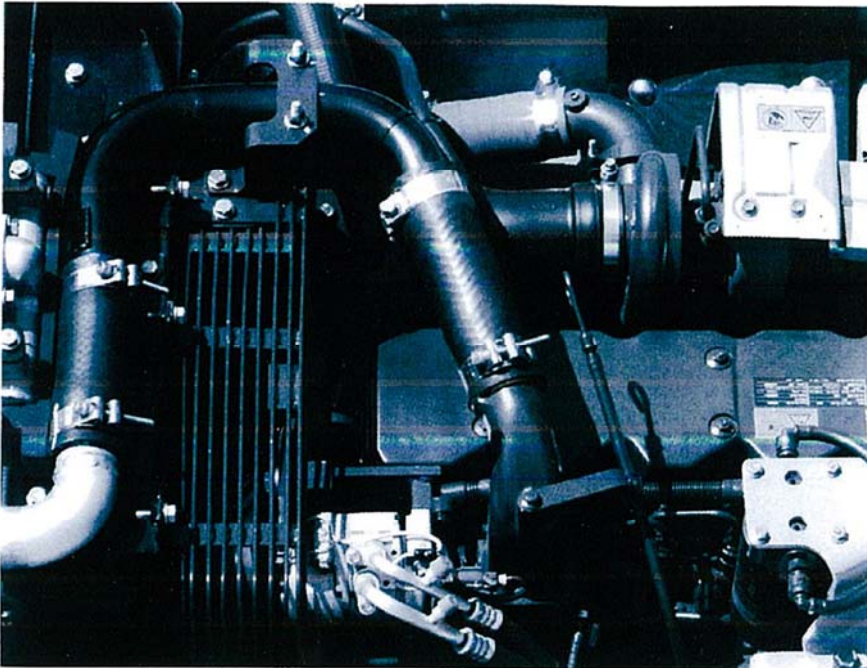
- Industrial sewing machine 2



● SUJITIGAI-KUN



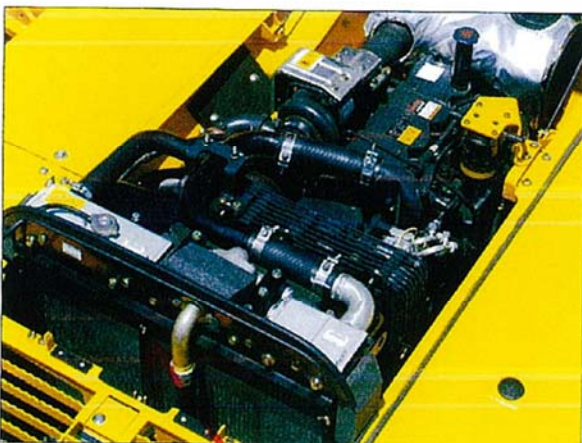
● Tractor



● UHN type of scoop knob nut



● Clasp of filter cover of radiator



● Circulation filter

