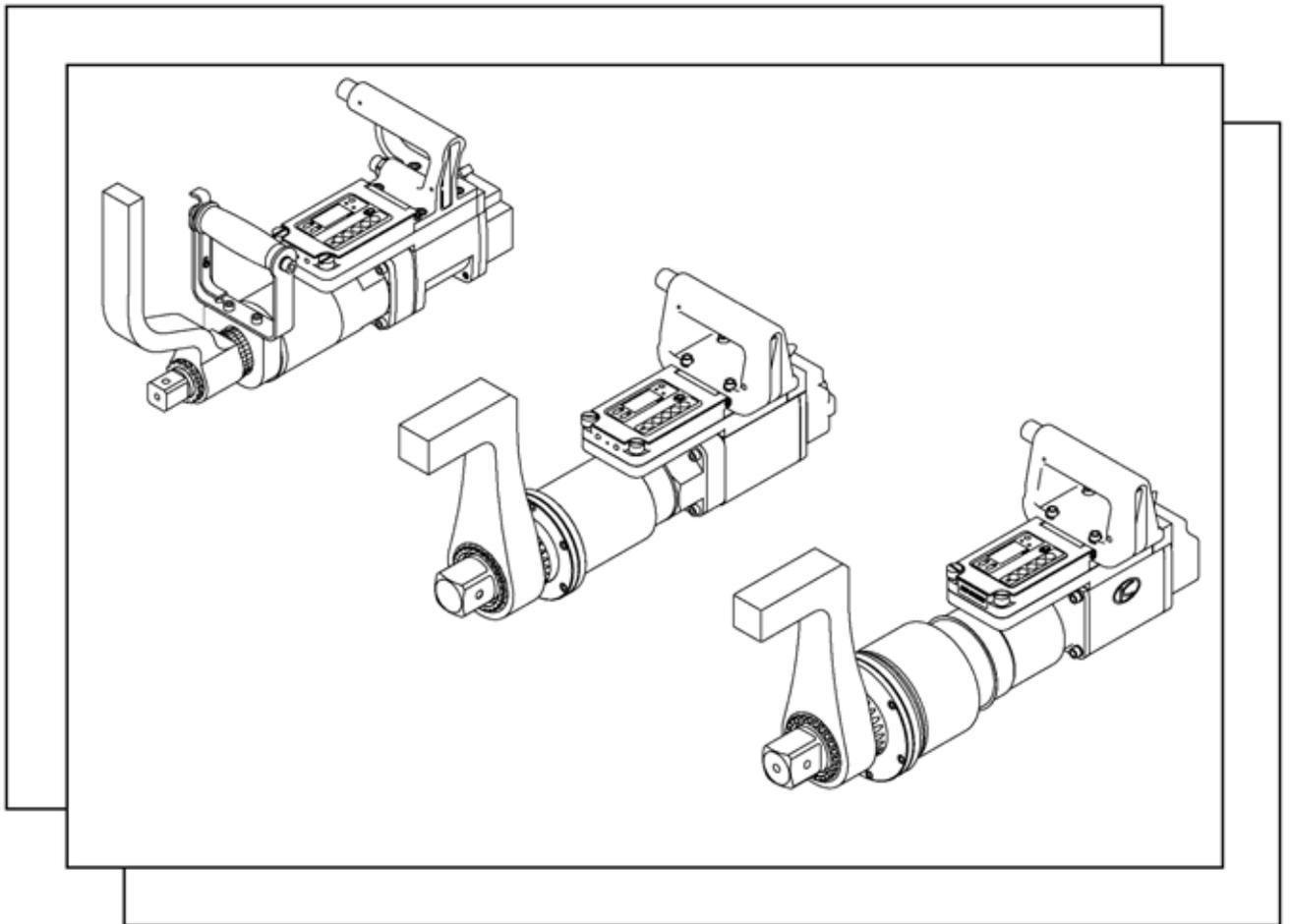


# PTS-1000ES 3000ES 5000ES

## Operation Manual



Read this Operation Manual thoroughly and the separate "Instruction Manual" before using.



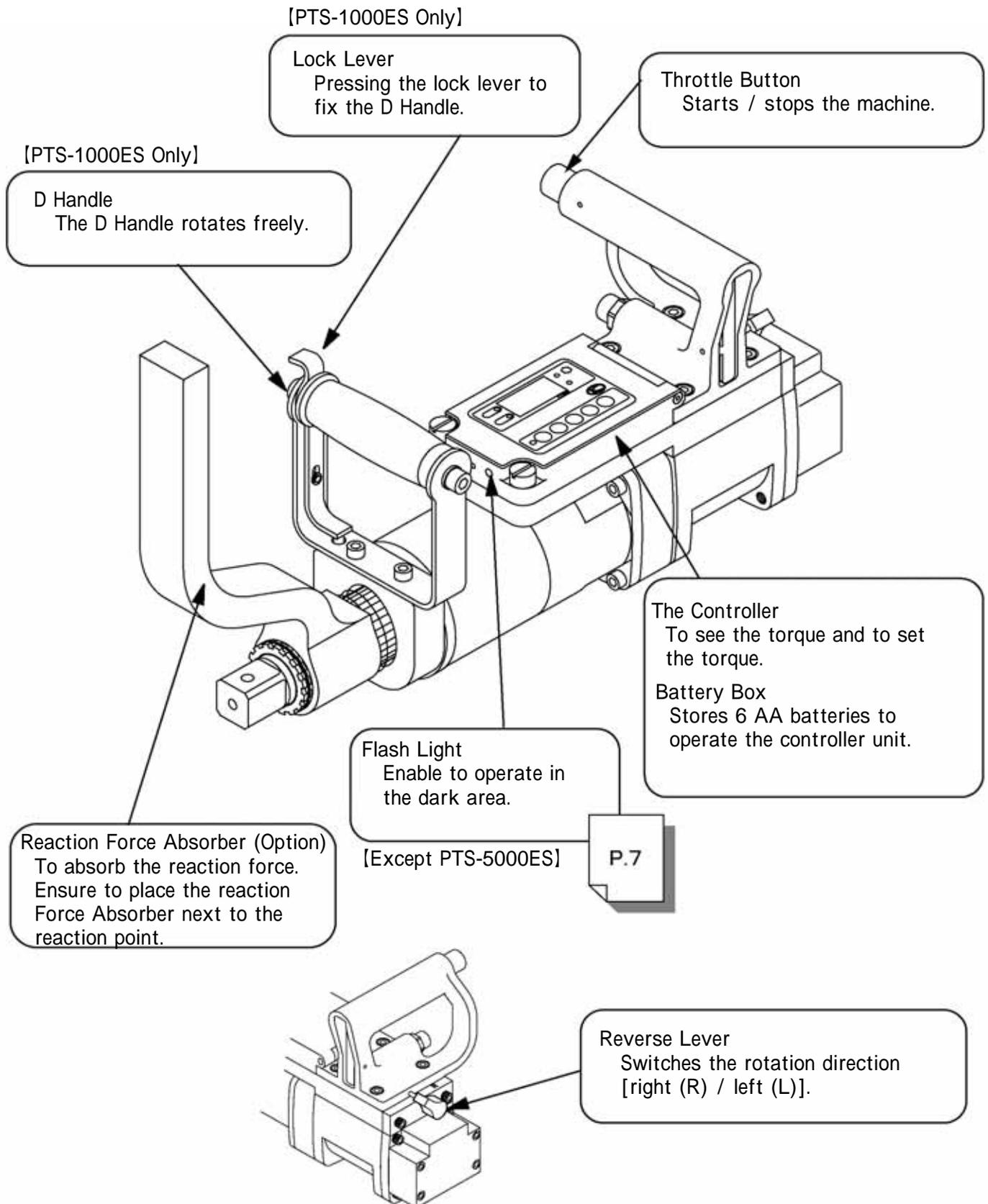
KUKEN CO., LTD.

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The manufacturer is not responsible for faults or malfunctions which arise from bad maintenance or wrong / inadequate use of the Product and unauthorized modification / repair of the Product.  
Unauthorized modification includes "self made reaction force absorber".

# Main Unit : Part Name and Functions



In order to fasten bolts/nuts for tire wheels with PTS-1000ES, please change the spindle and the front case to longer ones. And also attach the reaction force absorbers particularly made for tire wheel changing.

# Controller Unit : Part Name And Functions

## JUDGMENT LAMP

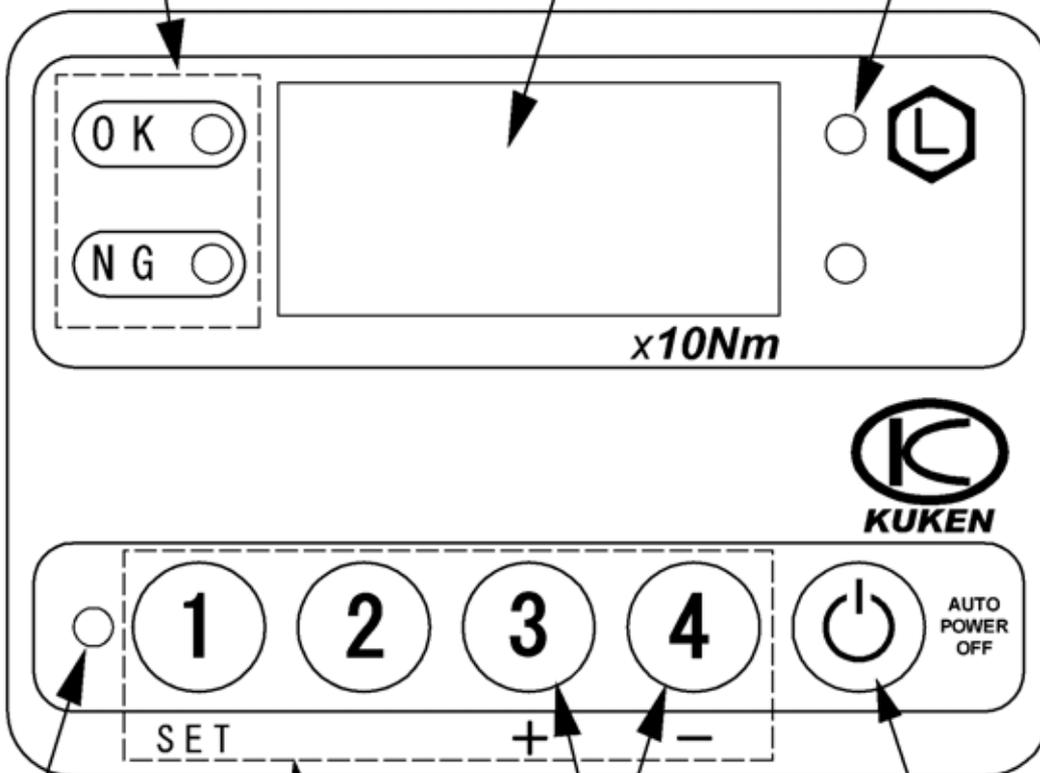
OK (GREEN) : Lights when the fastening is completed successfully.

NG ( RED ) : Lights when the set torque cannot be obtained due to interruption or error.

Display Panel  
Displays the torque

Left Handed Screw

Lights when left handed screw operation



SETUP Lamp (Red)

Lights when changing the pre-set torque or the pre-set key.

+ and - keys  
Uses to change the torque.

Pre-set keys

Uses to select the pre-set torque.

Power Key

Uses to turn on manually when the power is off.

# Unique Functions

## Additional Functions

### PRE-SET FUNCTIONS

4 different torques can be set and stored ( Pre-set torques ).

In case of pre-tightening and final-tightening works, the tool can be used for various works.

8

### AUTO - START and AUTO - POWER OFF

By pressing the throttle lever, the CPU activates automatically.

If not operating for a certain period of time, the power will be turned off automatically.

### REAL TIME DISPLAY

The torque can be shown on the panel in real time and easy to understand the situation.

10

### LEFT HANDED SCREW MODE

Enable to fasten left handed screws. When this is selected, the right direction is to loosen.

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### LOOSENING FUNCTION

The machine has the function to loosen bolts/nuts.

12

### JUDGMENT LAMP

The fastening result can be judged if the operation is successful or not. If the operation is successfully completed, the judgment lamp turns green. If not, the NG lamp turns red and alerts the operator.

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### AUTO SHUT OFF

The solenoid valve shuts off and stops the machine when the operation is completed successfully and the judgment lamp turns green.

### FLASH LIGHT [except PTS-5000ES]

7

## Safety Functions

### Fail Safe Function

In case batteries are exhausted or very low, the CPU will not be activated and the spindle turns very slowly to reverse direction. Operators can easily recognize the battery problem.

### Error Detection Function, Abnormal Fastening Detection [ CH1 ] [PTS-1000ES Only]

This function detects bolt stretching beforehand and forces to stop the machine.

This function can be turned on/off depending on works.

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### Function to Prevent Operational Error

This function is to prevent an operational error. If the key which is set [ - - - ] selected by mistake, it will never be activated.

8

## Other Functions

### Power Source

CPU is operated by batteries. Use 6 AA dry cell batteries. Alkaline (recommended) and also Ni-MH is available.

17

### Data Transmission ( Option )

PTS can be connected to a computer or the printer ( option ) with the original transmission cable ( option ) to transfer results.

PTS must be the transmission model ( option ) in order to transfer data.

6

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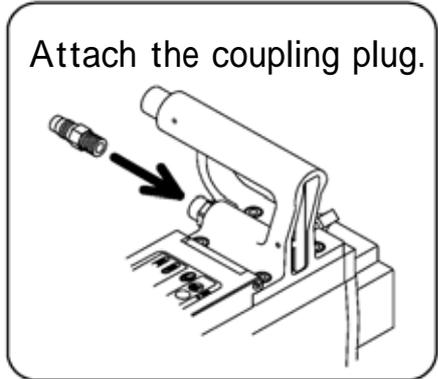
19

# Preparation (1) Attaching Accessories

Check to make sure that all the components are present and that nothing is damaged while shipping. If any problems, please contact your dealer.

- PTS-1000ES
- Coupling Plug 20PM..... 1
  - O-Ring (attached to the machine)..... 1
  - AA Dry Cell Alkaline Battery ..... 6

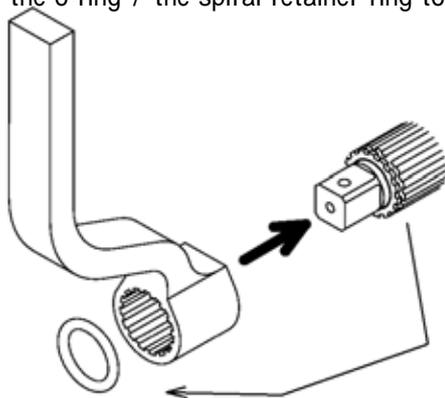
- PTS-3000ES & 5000ES
- Coupling Plug 20PM..... 1
  - Spiral Retainer Ring (attached to the machine)..... 1
  - AA Dry Cell Alkaline Battery ..... 6



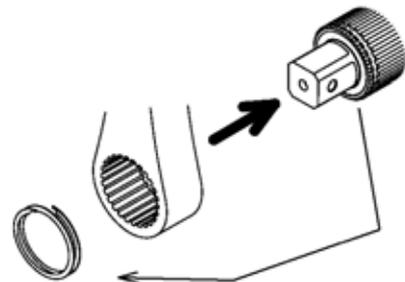
## Attach the reaction force absorber (option).

Make sure that the air supply is disconnected when attaching the reaction force absorber. Detach the o-ring / the spiral retainer ring from the machine and insert the reaction force absorber. Make sure to attach the o-ring / the spiral retainer ring to avoid the reaction force absorber to come off.

[PTS-1000ES]

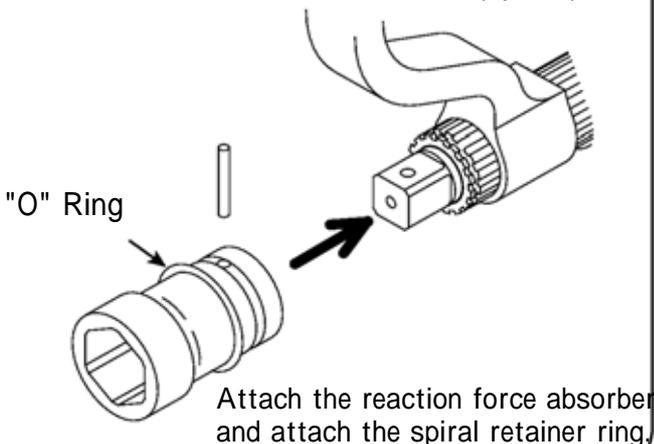


[PTS-3000ES ·



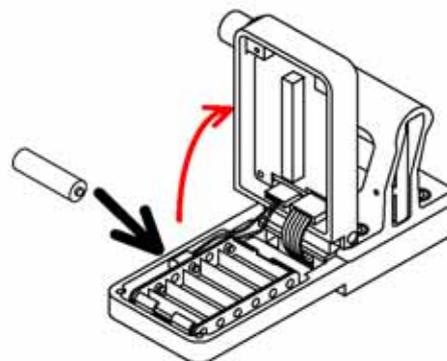
Make sure that the O-ring is properly attached to avoid the reaction force absorber to be come off.

Reaction force absorber (option)



## Insert batteries into PTS.

Unscrew and open the battery housing cover and insert batteries. Make sure to insert correct directions of batteries. (If not using long, remove batteries)



**WARNING**  
Do not insert batteries opposite directions. Inserting batteries opposite directions will damage the CPU.

Be careful not to shut the line in. Handle the controller unit with care.

Do not connect the air hose until the preparation has been done.

## Preparation (2)- Initial Setting ( Description )

Before using PTS, following modes must be selected.

	PTS-1000ES	PTS-3000ES	PTS-5000ES
(1) Transmission Mode			
(2) Flash Light Mode			×
(3) CH1 Mode		×	×
(4) Left Handed Screw Mode			
Number of Modes must be set	4	3	2

(1) Selection of Transmission Mode ( Transmission Model is optional ).

There are 2 types of PTS models. Transmission model and non-transmission model.

If non-transmission model, either mode below may be selected.

PRINTER MODE [ Prn ] ······ Connect the printer ( option ) to out put the result on thermal paper.

PC MODE [ PC ] ······ Connect a computer to transfer results

(2) Flash Light Mode [except PTS-5000ES]

Turn on / off the flash light.

(3) On / Off of the abnormal fastening detection [ CH1 ] \*\* [ PTS-1000ES only ]

Select [ CH1 ] on or off.

Purposely add this function for fastening tire wheel nuts.

It may detect [ CH1 ] even after fastening general bolts or nuts if the automotive mode is selected.

\*\* Please see page 15 for further information of [ CH1 ].

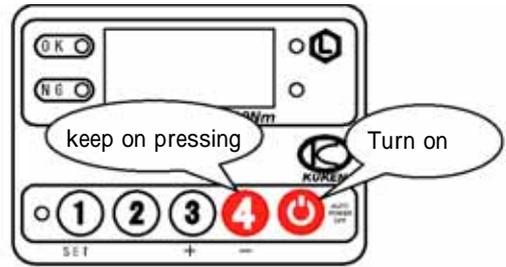
(4) Left Handed Screw Mode

This mode is to set to fasten left handed screws.

# Preparation (2)- Initial Setting ( Operation )

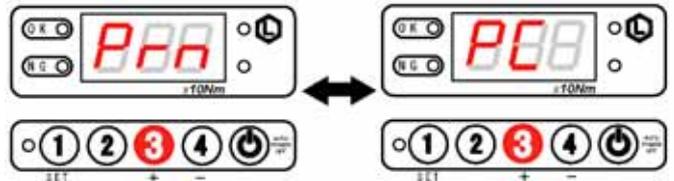
To select each mode described in the previous page,  
Please follow the instruction below.

Make sure the machine is turned off. Press  for a few second  
and press the power switch while pressing .

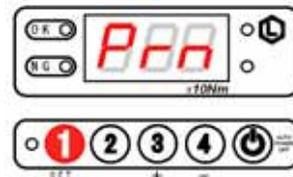


## To select Transmission Mode

Press  key once to change the mode from the [Prn].  
And press  again to change the mode back to [PC]



If the PTS is not the transmission model, either can be selected.

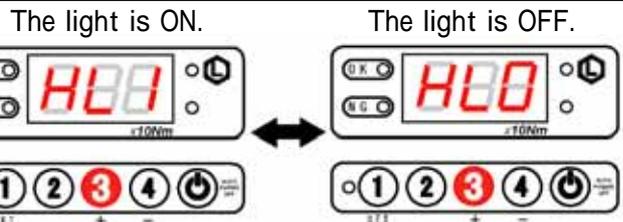


Press  to complete the selection.  
Then the selection will move to the next setting.

## Flash Light Mode

[except PTS-5000ES]

Press  key once to change the mode from the [HL1].  
And press  again to change the mode back to [HL0].



The flash light will be turned on as soon as pressing  
the throttle lever and will be turned off as soon as the  
controller turns off.

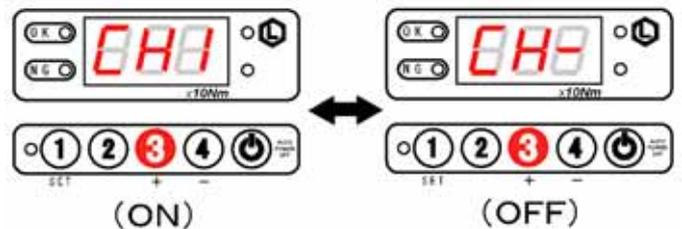
To keep the battery saving, please keep the light off.

Press  to complete the selection. Then the selection will move to the next setting.

## To select [ CH1 ] Mode

[PTS-1000ES only]

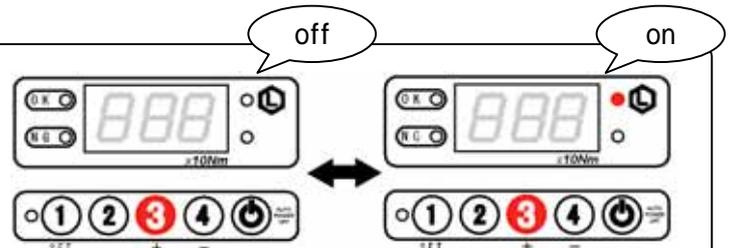
Press  key once to change the mode from the  
[CH1]. The abnormal fastening detection is on.  
And press  again to change the mode back to  
[CH-] off. The abnormal fastening detection is off.



Press  to complete the selection.  
Then the selection will move to the next setting.

## Left Handed Screw Mode

Press  key to turn on or to turn off the left handed  
screw mode.  
When it is on, the spindle turns counter clock wise.  
When it is off, the spindle turns clock wise.



Press  to complete the selection. Then the controller will be turned off automatically.

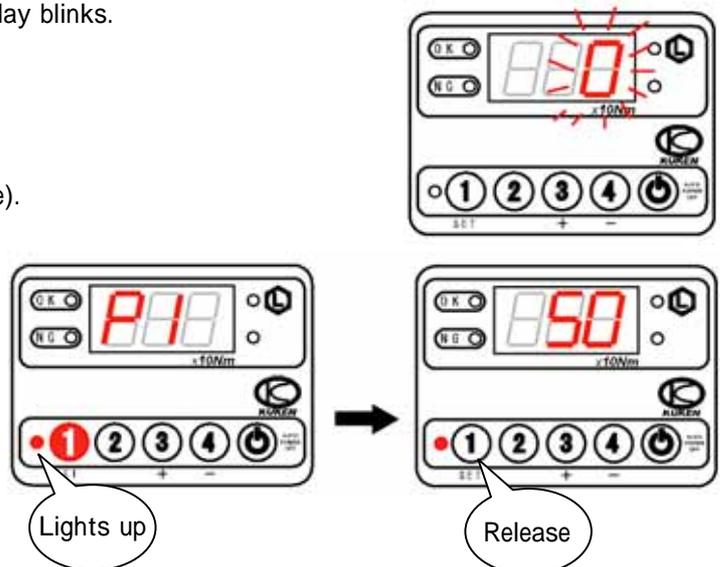
## Preparation (3) How to pre-set the torque

This section describes how to pre-set the torque for keys through . [PTS-1000ES]  
For example, to pre-set with 600 Nm.

Turn on the power switch and make sure the display blinks.  
Press key for 3 seconds.

SETUP Lamp lights up and the display indicates the pre-set key and then the previous torque.  
(This figure shows 500 Nm as the previous torque).

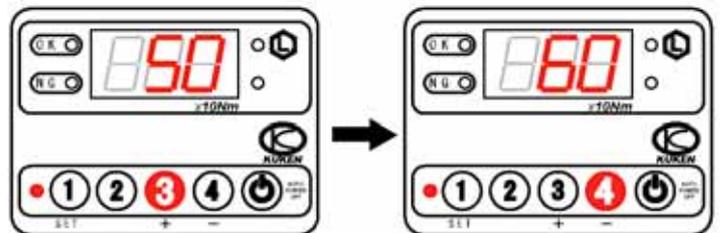
As soon as the torque is displayed, release the finger from the key.



Press [ + ] or [ - ] key to change the value to 60 (600Nm).

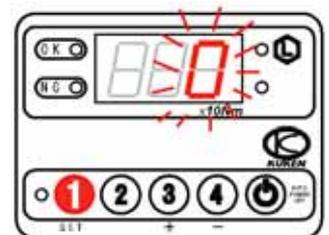
Pressing [ + ] for a few seconds increases the value quickly.

Pressing [ - ] for a few seconds decreases the value quickly.



To complete the setting, press [ SET ] key.

Please make sure the display blinks [ 0 ] after setting.



To pre-set other keys, repeat above method through .  
Once pre-set the torque, the value is stored until re-set the torque.

**(Caution)** The torque range is 400 to 1000 Nm for PTS-1000ES, 1000Nm to 3000Nm for PTS-3000ES, and 2000 to 5000Nm for PTS-5000ES. The torque can not be set beyond the range.

### Function to Prevent Operational Error

Select the pre-set key and press [ - ] until the lowest limit.

When [ - - - ] is displayed, the pre-set key is set to prevent operational error.

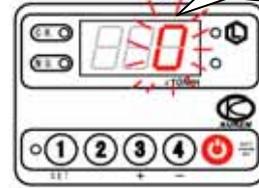
Even though the pre-set key which is set [ - - - ] is selected by mistake, the tool will not be able to operated.

The panel will be turned off after 10 seconds, but the torque value will be fixed.

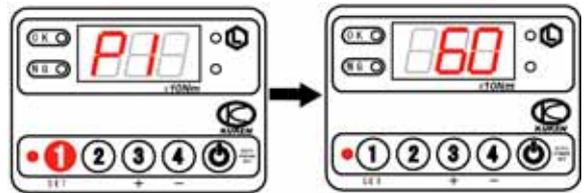
# How to Fasten Industrial Mode [Ind]

Selecting the pre-set number ( for example, the pre-set number and 600Nm )

Press the power switch. The display shows [ 0 ] blinking.



Press for a few seconds. The pre-set is set 600 Nm.  
When the display indicates [ P.1 ], release the key.  
Soon after indicating [ P.1 ], the display also indicate the torque value [ 600 ] Nm.



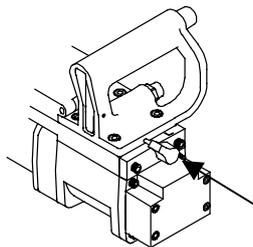
At this moment, the pre-set key is selected.

Selected pre-set number is valid until changing to other pre-set number.

Check the rotative direction ( Reverse Lever ).

R : Right Rotation

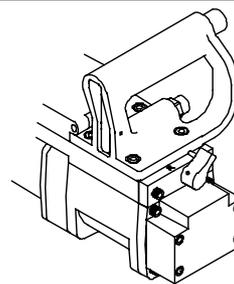
(Fastening the right handed screw)



Reverse Lever

L : Left Rotation

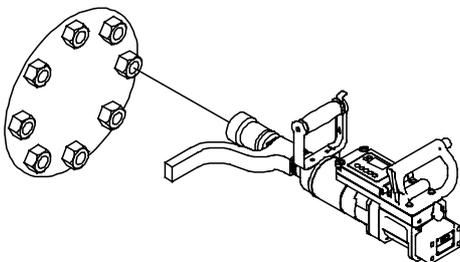
(Fastening the left handed screw for [Aut] mode)



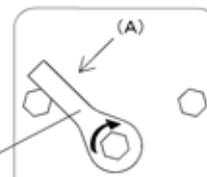
After applying the reaction force absorber next to the fastening bolt/nut, insert the socket to the fastening bolt/nut and press the throttle lever.

( Caution )

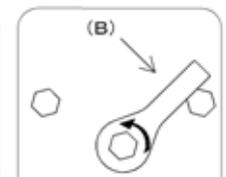
- In case of right handed screw, the reaction force absorber rotates to the direction (A).
- In case of left handed screw, direction (B)



Reaction Force Absorber



In case of fastening the right handed screw



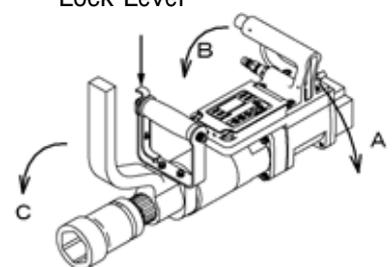
In case of fastening the left handed screw.

How to operate the lock lever (example)

Lock Lever

The handle and the reactive force absorber move synchronously.  
Turn the handle and the reactive force absorber to the workable direction with the lock lever.

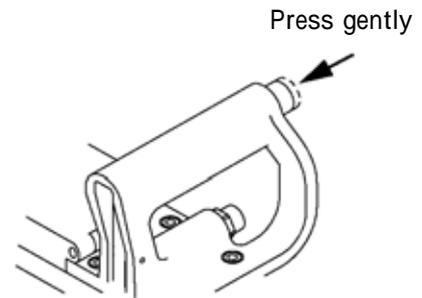
Turn the handle to the direction of A while pressing the lock lever. Then release the lock lever and turn the handle to the direction B.  
The reactive force absorber rotates to the direction C.



# How to Fasten

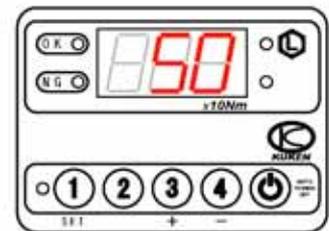
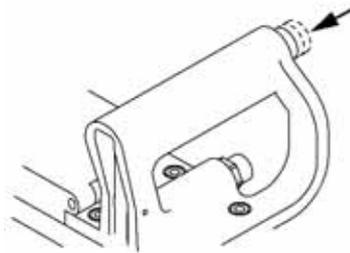
How to insert the socket with the throttle button ( slow start )

Pressing the throttle button lightly to activate the slow start function. It is easier to insert the socket when the spindle slowly rotates.



Press the throttle button to start fastening.

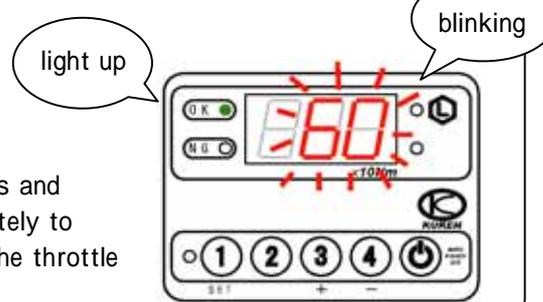
Rotating the nut at the high speed until the nut bottom out. When bottoms out, the rotation speed is switched to low to continue the fastening.



While operating, the torque will be shown in real time.

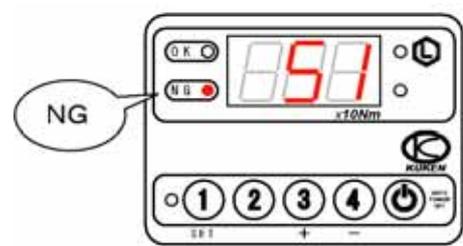
Once reaches the pre-set torque, OK lamp will be lit ( green ) and stops automatically. \*1  
The final attained torque blinks on the display panel.

\*1 When reaching the set torque, the machine automatically stops and rotates in the reverse direction at an ultra-low speed immediately to prevent the socket bite. Immediately release your hand from the throttle button when the counter-rotating starts.



If the throttle lever is released while operating, NG lamp ( red ) will be lit to alert the operator.

When the throttle button is released or interrupted due to finger slipping, make sure to re-fasten the nut. Otherwise, check the set torque and the set mode.



In case of Left Handed Screw Mode , left handed screws can be fastened.

## Warning

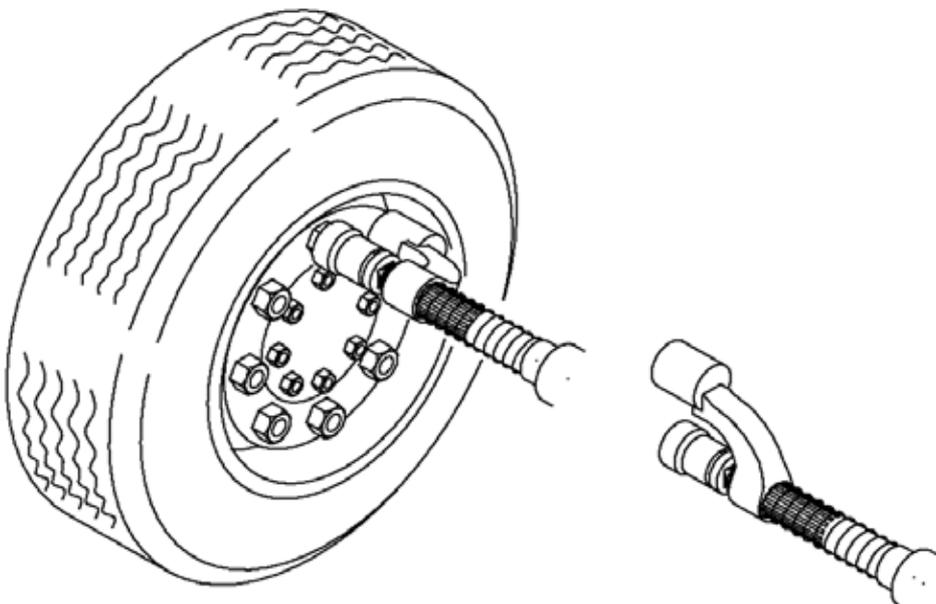
- While operating PTS, do not touch the reaction force absorber or the socket.
- If something wrong with PTS, please release the throttle button and stop the operation.

## How to Fasten Wheel Nuts

[ In case of using PTS-1000ES for fastening wheel nuts ]

In order to fasten bolts/nuts for tire wheels with PTS-1000ES, please change the spindle and the front case to longer ones. And also attach the reaction force absorbers particularly made for tire wheel changing.

Cap the reaction force absorber onto the nut next to the reaction point.  
And align the socket to the fastening nut.

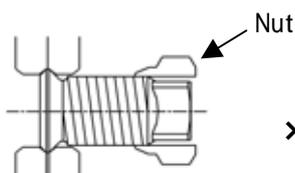
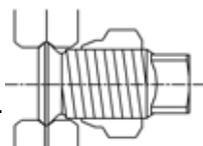


### CAUTION!!

In case of the wheel nut made up of the inner nut and the outer nut, please make sure the following.

Make sure to fasten the inner nut securely before fastening the outer nut.  
Since this machine absorbs the reactive force by the (inner or outer) nut, fasten all nuts after sufficiently inserted in order to protect the thread.

Nut is sufficiently inserted.



× Nut is not sufficiently inserted.

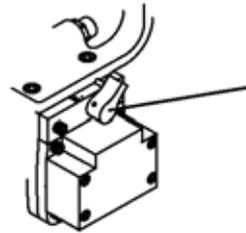
# How to Loosen

## The maximum loosening torque

Model	Maximum Loosening Torque
PTS-1000ES	1,400 Nm / 1,030 ft.lbs
PTS-3000ES	3,400 Nm / 2,500 ft.lbs
PTS-5000ES	5,500 Nm / 4,050 ft.lbs

Turn the Reverse Lever to the left.

L : Reverse direction  
( Loosening the right handed screw )

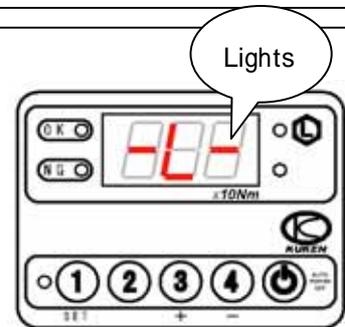


Reverse Lever

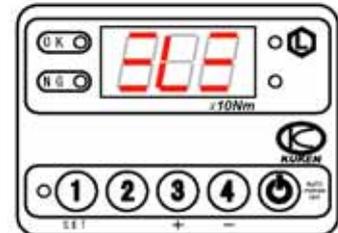
Apply the reaction force absorber next to the fastening bolt/nut.  
And press the throttle lever.

While loosening, [ - L - ] will be displayed.

Make sure if the bolt/nut is loosen and release the throttle lever.



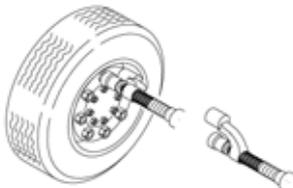
If exceeding the maximum torque [  $\equiv L \equiv$  ] will be displayed and the torque limiter will shut off the machine.  
In this case, please use an impact wrench to loosen the bolt/nut.



### Warning

- While operating PTS, do not touch the reaction force absorber or the socket.
- If something wrong with PTS, please release the throttle button and stop the operation.

[ In case of using PTS-1000ES for loosening wheel nuts ]



Cap the reaction force absorber onto the nut next to the reaction point.  
And align the socket to the fastening nut.

### **CAUTION!!** [PTS-1000ES ONLY]

In case of the wheel nut made up of the inner nut and the outer nut, please be careful that the inner nut may be loosen while loosening the outer nut.  
Please make sure to fasten inner nut securely before fastening the outer nut.

# Troubleshooting (1)

	Symptom/Panel Display	Causes	Measures
Main Unit	Torque displayed on the panel does not reach the pre-set torque. ( *1 )	Air pressure is decreased when operating.	Eliminate the cause and check the air compressor or others. Check the pre-set torque and re-set the value again.
		The torque can be set incorrectly.	
	Reaches to the pre-set torque and stops automatically before the nut/bolt is bottomed out.	Abnormality on the thread surface (due to seizure of thread or others)	Replace the nut/bolt with new one.
Battery	Even though the throttle lever is pressed, the spindle slowly rotates in the reverse direction against the rotative direction (Reverse Lever).	Batteries are not inserted.	Insert batteries.
		Batteries are not properly placed in the battery housing.	Securely set batteries in place.
	 is displayed. ( *2 )	Batteries are running low.	Replace batteries with new ones.
Controller	 is displayed and turned off immediately. (XX is indicated with 2 digit number) ( *2 )	Failure of the controller (CPU).	Please refer the next page.
Others	 is displayed and turned off immediately. (X is indicated with 1 digit number) ( *2 )	Troubles other than the main unit.	Please refer the next page.
	 is displayed and turned off immediately.	Exceeded the torque limit for loosening.	Please refer the next page.

( \*1 )  may be displayed in this case.  
If something wrong with the machine, please release the throttle lever and stop operating the machine.

( \*2 ) Please refer the next page "troubleshooting (2) and (3)" for error codes.

## Caution

If the operation is taking longer than usual and the machine do not auto-stop, release the throttle button and stop the operation.

If any troubles other than above or if measures do not solve errors, please contact the dealer for repair.

## Troubleshooting (2) Description of Error Code

Error Code Description on PTS main unit ( troubles on the main unit )

Error Code	Panel Display	Causes	Measures
E01		Malfunction of the torque sensor causes the misalignment of "zero point".	Please contact your dealer.
E02		The sensor detects the abnormal uprising of the torque higher than the pre-set torque.	Please check the surface of screws and grease and fasten again. However [E02] is still shown on the panel, please contact your dealer.
Lo		Low batteries	Please replace with new batteries.

Error Code Description on fastening

Error Code	Panel Display	Causes	Measures
CH1 (CHECK1)	If [ CH1 ] is turned on, 	Please see the next page [ Troubleshooting (3) ].	
Under Torque	Result below pre-set torque 	Releasing the throttle lever before reaching the pre-set torque. (The figure shows 350Nm when releasing the throttle lever).	Please loosen the nut once and try to fasten again.

Error Code Description on loosening

Error Code	Panel Display	Causes	Measures
≡ L ≡		[ when loosening mode is selected ] The loosening torque exceeds the maximum torque.	Please loosen bolts/nuts with an impact wrench.

## Troubleshooting (3)- [CH1]

Depending on the condition of wheels, bolts, nuts and other fastening parts, fastening with PTS may damage bolts. ( Hereinafter this condition will be referred to as "abnormal fastening").

This machine has the function to immediately detect this "abnormal fastening" and shut down to prevent bolts and other parts from damages.

When "abnormal fastening" is detected, "CH1"( CHECK1 ) is displayed on the controller and the machine stops.

When "CH1" ( abnormal fastening ) is displayed, check the following.

[1] If "CH1"(abnormal fastening) is displayed, please remove the nut.

(Caution) If the wheel nut is made up of the inner nut and the outer nut, please make sure to fasten the inner nut with recommended torque after loosening the outer nut.



### Warning

If "CH1" is displayed, do not continue fastening. Loosen the bolt / nut first. Otherwise the bolt may be stretched or the wheel may be deformed.

[2] In case of JIS type ( 8 nuts )

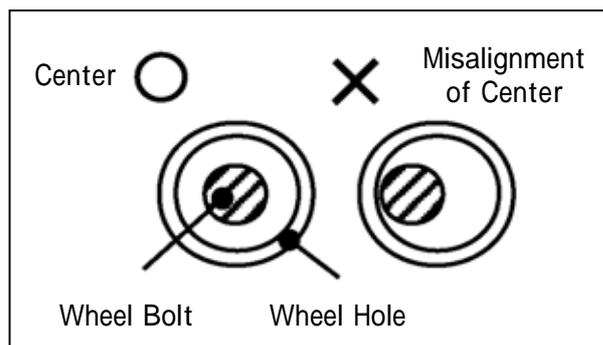
- (1) Whether the wheel center is misaligned to the wheel bolt.
- (2) Whether there are any damages on the seating surface of wheels, nuts, and or thread face.  
Replace the parts when there are damages or unevenness of seating face.
- (3) Whether the wheel bolt is extended ( stretched ).  
If so, replace the bolt with new one.
- (4) Whether excessive grease is applied.  
If so, wipe off the grease gently.

In particular, excessive grease application on the aluminum wheel is a cause of excessive axial force generation\*. Pay full attention to the amount or the portion of grease applied.

Refer automobile manufacturer's instruction.

\*Axial Force : Force to pull the bolt (Fastening Force).

- (5) Whether the torque is appropriate.  
Refer automobile manufacturer's instruction.



Unevenness of wheel seating surface (exmaple of iron wheel)



Unevenness of inner nut seating surface (exmaple of iron inner nut)

## Troubleshooting (3)- [CH1]

[3] In case of ISO type ( 10 nuts )

(1) Whether there are any damages on the seating surface of wheels, nuts, and or thread face.

Replace the parts when there are damages or unevenness of seating face.

(2) Whether the wheel bolt is extended ( stretched ).

If so, replace the bolt with new one.

(3) Whether appropriate amount of grease is applied or excessive grease is applied.

Excessive grease application is a cause of excessive axial force generation. Pay full attention to the amount and the portion applied.

Refer automobile manufacturer's instruction of grease.

For the tapered area, apply grease to the degree that the excessive grease does not leak when the nut and the washer are pressed. If excessive, wipe the grease off gently with a waste cloth.

(4) Whether the torque is appropriate.

Refer automobile manufacturer's instruction.

[4] After examine bolts, nuts and others for abnormality or changing to new parts, please fasten nuts with extra pre-tightening.

(Caution) If the wheel nut is made up of the inner nut and the outer nut, please make sure to fasten the inner nut with recommended torque after loosening the outer nut.

# Cautions for operation

In any case, do not touch the reaction force absorber and the socket when operating.

If anything wrong with the machine, immediately release hands from throttle button to stop operation.

Always keep the working air pressure within the range of 0.6 to 0.7 MPa (Pe). Usage under the air pressure of over 0.7 Mpa may cause the defect of the built-in solenoid valve.

Avoid excessive grease application on the air motor. It may cause the defect of the built-in solenoid valve.  
(As a guideline, apply "one or two drops of the machine oil ISOVG 10 once a day.")

When applying the cap of the reactive force absorber to the nut, do not align the absorber by hand.  
The hand might be pinched between the reactive force absorber and an object by accident when starting the machine.

Do not operate in the condition that the socket of the reactive force absorber and the socket of the main unit are not properly inserted into the respective nuts. The socket or reactive force absorber may come off the nut, resulting in human injuries and damage on the nut and the object.

Do not pour "liquid" or "oil" onto the controller.

Do not make a high impact on the controller.

In case the machine does not stop when the OK lamp is on, it might be at fault. Stop using the machine immediately.

Replace batteries when the power is off.

In case of tightening, fastening may be completed with a little larger torque than the pre-set torque.  
( When exceeding the specified upper limit of torque by tightening, once loosen the nut and re-fasten it from the beginning.)



## Warning

**Do not insert batteries opposite directions.  
Inserting batteries opposite directions will damage the CPU.**

Use AA dry cell batteries X 4. Alkaline (recommended), Ni-MH(rechargeable), Oxyride dry batteries are applicable.  
Do not use other batteries than specified. Do not use worn batteries.  
Carefully read cautions on batteries and follow the direction.

Following cases may cause human injury, liquid leaking of batteries, excessive heat of batteries, or burst of batteries

Do not peel the exterior package of the battery or scratch the battery.

Using those batteries may cause the heat or burst.

Do not insert batteries opposite direction. (+) (-)

Do not mix batteries with other assortments or different voltage.

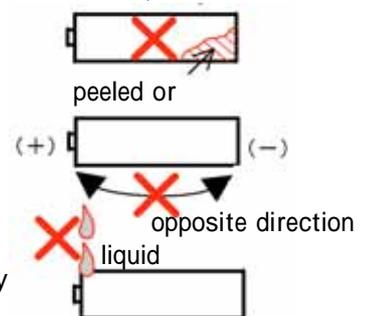
Replace all batteries with new. Do not mix with charged and discharged batteries.

Do not pour liquid on batteries nor do not soak batteries into liquid.

If something wrong with batteries, please do not use.

If not using the machine for a long time, please remove and store batteries properly

In case of leaked liquid from batteries attached to skin or garment, wash off with clean water immediately.



## Warning

If properly used under the normal use environment and nothing wrong with bolts, nuts or object which are to be fastened, a torque wrench is not necessary to check the fastening result.

Please check and confirm the torque with a torque wrench or other measurement tools at the beginning of the operation.

# Options

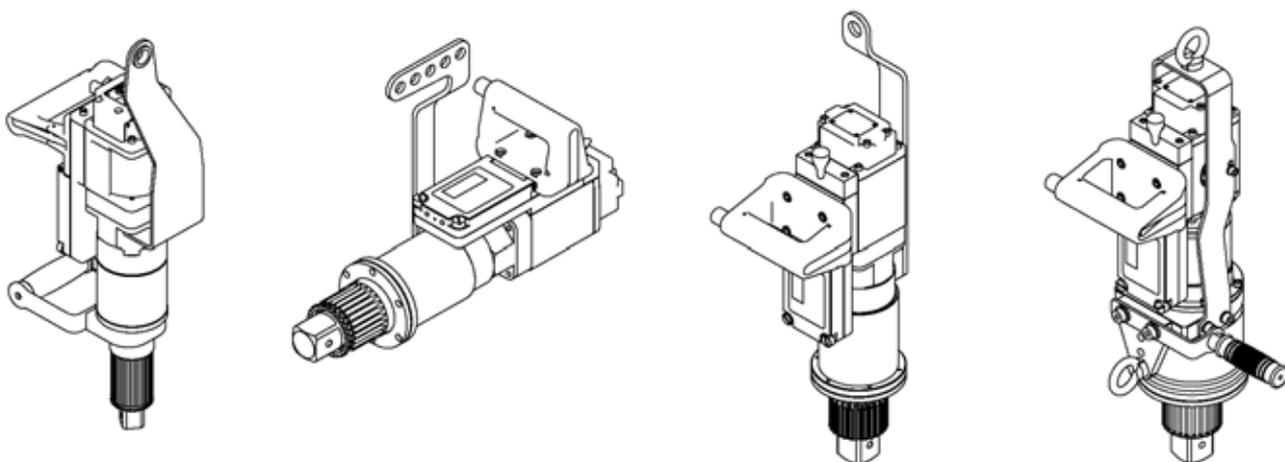
## Reactive Force Absorber

Any kind of reactive force absorber is available to design and make.

Please ask your dealer.

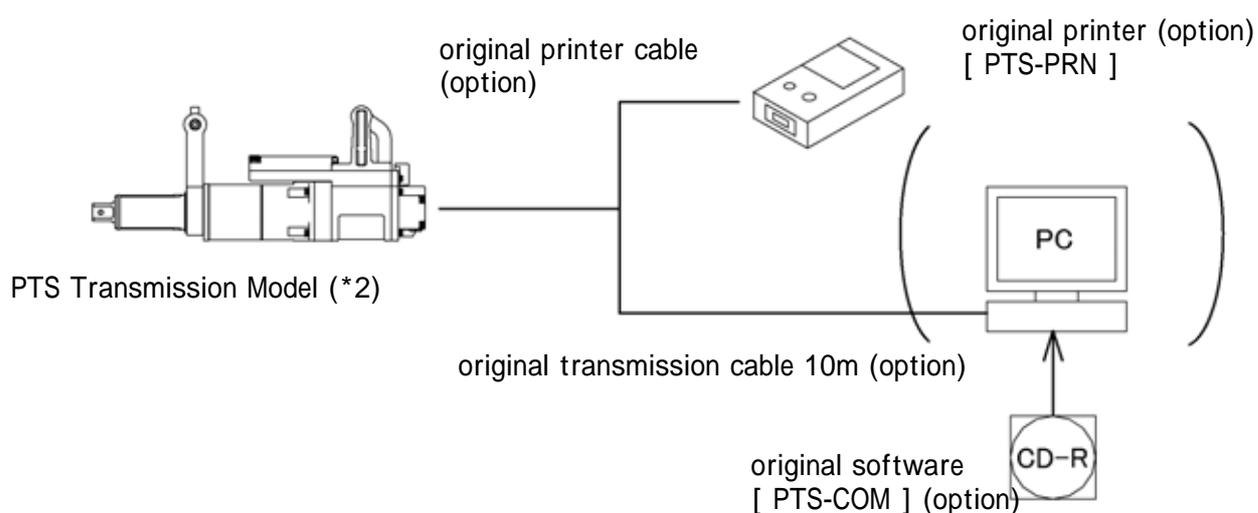
## Hanging Tools

These are also the optional part which are very convenient to keep the machine hanging.



## Transmission

Each PTS models can be connected to the printer or the computer(\*1). And the result can be saved as data.



(\*1) PTS can not be connected both the printer and the computer at same time.

(\*2) PTS-800ES must be the transmission model in order to connect the printer or the computer.

# Options

## Printer Output ( PTS-PRN )

By connecting the optional printer, it enables to print the pre-set key number and the pre-set torque, the direction, the result, and a company name/facility name. ( The company name/facility name must be registered at KUKEN and must be within 24 letters. )

But the date or the operation time will not be printed.

If using the printer, please refer Page 7 and select [ Prn ].

P1= 145	R	1 4 7 Nm
P2= 240	R	2 4 3 Nm
P3= 450	R	4 5 1 Nm



## PC Output ( PTS-COM )

By the installation of the optional software ( PTS-COM ) to a computer,  
 Displays the torque, the number of screws, and the date on the computer screen.  
 Also it enables to save in the computer file as data.

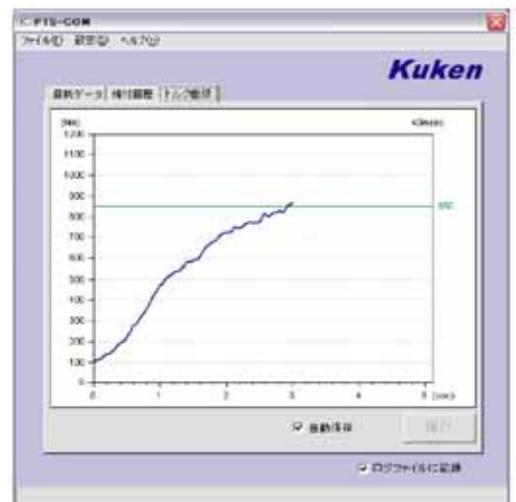
Fastening history can be read in Excel format.

The torque chart ( time - torque ) can be displayed and saved in the computer.

If using a computer, please refer Page 7 and select [ PC ].



NO.	日	時	分	秒	トルク	方向	結果
1	2010/12/27	9:27:12	850	R	850		
2	2010/12/27	9:27:24	850	R	850		
3	2010/12/27	9:27:36	850	R	870		
4	2010/12/27	9:27:51	850	R	850		
5	2010/12/27	9:28:10	850	R	850		
6	2010/12/27	9:28:24	850	R	850		
7	2010/12/27	9:28:38	850	R	860		
8	2010/12/27	9:28:51	850	R	850		
9	2010/12/27	9:29:03	850	R	860		
10	2010/12/27	9:29:23	850	R	870		
11	2010/12/27	9:29:54	850	R	850		
12	2010/12/27	9:30:11	850	R	860		
13	2010/12/27	9:30:29	850	R	850		
14	2010/12/27	9:30:35	850	R	870		
15	2010/12/27	9:30:57	850	R	870		



## Main Unit Specifications (controller included)

	PTS-1000ES	PTS-3000ES	PTS-5000ES
Length	485 mm 19 in.	497 mm 19-9/16 in.	538 mm 21-1/6 in.
Weight**	11.1 kg 24.4 lbs	14.9 kg 32.5 lbs	21.3 kg 46.9 lbs
Free Rotation Speed	135 r.p.m.	95 r.p.m.	60 r.p.m.
Air Consumption	0.6m <sup>3</sup> (normal)/min 21.4 c.f.m.	0.57m <sup>3</sup> (normal)/min 21.0 c.f.m.	0.57m <sup>3</sup> (normal)/min 21.0 c.f.m.
Drive Size	1"	1-1/2"	1-1/2"

\*\* Reactive force absorber and socket not included.

## Controller Specifications

Use Environment	Ambient temperature : 0 - 50	Humidity : 20 - 95 % ( non condensing )
Fastening Method	Torque method	
Parameters to be set	Set torque, fastening mode ( right hand screw/left hand screw )	
Resolution	10 Nm	
Torque Range	PTS-1000ES 400 to 1,000 Nm	PTS-3000ES 1,000 to 3,000 Nm
		PTS-5000ES 2,000 to 5,000 Nm
Torque Step	10 Nm / step	
Accuracy	± 5%	
Display	Numeric representation	3 digit LED with 7 segments    Displayed by x 10Nm
	Judgment Lamp	OK ( green ) : Lights when reaching to the set torque NG ( red ) : Lights when fastening is interrupted. Warns insufficient torque.
Controller	Pre Set Key	Uses to select the pre-set torque. Uses as +, SET, and/or - when changing the torque.
	+ and - Key	When the + key is pressed, 1Nm is added to the set torque. When - key is pressed, 1Nm is subtracted from the set torque.
	SET Key	After changing the torque value, this key is to complete the setting.
	Power Key	Uses to manually startup for the set torque setting, etc.
Battery	AA dry cell x 6 alkaline ( recommended ), Oxyride, Ni-MH dry cell are applicable	
Automatic Power Off	Power is automatically turned off about 10 seconds after fastening or loosening is operation is finished, or key operations are completed.	



3-6-15 NONOUE, HABIKINO-SHI  
OSAKA JAPAN  
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FAX : 81-729-53-0605

U.K.	:EC DECLARATION OF CONFORMITY	- Individual machinery and safety components
France	:DÉCLARATION DE COMFORMITÉ CE	- Machine seule et composants de sécurité
Deutschland	:EG KONFORMITÄTSEKTLÄRUNG	- Gesamtmaschine und Sicherheitseinrichtungen
España	:DECLARACIÓN DE CONFORMIDAD CE	- Maquinaria individual y componentes de seguridad
Italia	:DICHIARAZIONE DI CONFORMITÀ CE	- Macchina singola e componenti di sicurezza
Portugal	:DECLARAÇÃO DE CONFORMIDADE CE	- Maquinaria individual e dispositivos de segurança
Nederland	:EG KONFORMITEITSVERKLARING	- Individuele machine en veiligheidscomponenten
Danmark	:EF ERKLÆRING OM OVERENSSTEMMELSE	- Enkle maskin og sikkerhedskomponenter
Sverige	:EG-DEKLARATION OM ÖVERENSSTÄMMELSE	- Individuell maskin och säkerhedskomponenter
Norge	:EF EVERENSSTEMMELSESEKTLÆRING	- Individuel maskine og sikkerhedsudstyr
Suomi	:EY:N VAATIMUSTENMUKAISUUSILMOITUS	- Erilliset koneistot ja turvalaitteet
Hellas	:ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ΣΕ ΟΔΗΓΙΑ ΤΗΣ ΕΥΡΩΠΑΙΚΗΣ ΚΟΙΝΟΤΗΤΑΣ	- Ανεξάρτητο μηχάνημα και εξαρτήματα ασφαλείας

We **KUKEN CO.,LTD.** -Osaka, Japan declare under our sole responsibility that the product: to which declaration relates, is in conformity with the requirements of the Council Directive of 22 June 1998 on the approximation of the laws of the Member States relating to machinery(2006/42/EC).

Nous **KUKEN CO.,LTD.**-Osaka, Japon déclarons sous notre seule responsabilité exclusive que le produit: auquel se réfère cette déclaration est conforme à la directive du conseil du 22 juin 1998, concernant le rapprochement des législations des états membres, relatives aux machines (2006/42/CE).

Wir **KUKEN CO.,LTD.**-Osaka, Japan erklären hiermit in alleiniger Verantwortung, daß das Produkt auf das sich diese Erklärung bezieht, den Anforderungen der "Richtlinie des Rates vom 22. Juni 1998 zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten für Maschinen (2006/42/EG) entspricht.

Nosotros **KUKEN CO.,LTD.**-Osaka, Japón declaramos bajo nuestra sola responsabilidad que el producto a que se refiere esta declaración, es conforme a los requisitos de la Directiva del Consejo de 22 de junio 1998 sobre la aproximación de las leyes de los Estados Miembros con relación a la maquinaria (2006/42/CE).

Noi **KUKEN CO.,LTD.**-Osaka, Giappone dichiariamo sotto nostra unica responsabilità che il prodotto cui questa dichiarazione si riferisce, è conforme ai requisiti della Direttiva del Consiglio del 22 Giugno 1998, sul ravvicinamento delle legislazioni degli Stati Membri relative alle macchine (2006/42/CE).

Nós **KUKEN CO.,LTD.**-Osaka, Japão declaramos sob nossa exclusiva responsabilidade que o produto a que se refere esta declaração está em conformidade com os requisitos da Directiva do Conselho de 22 de Junho de 1998 na avaliação das leis dos Estados Membros relacionadas com maquinaria (2006/42/CE).

Wij **KUKEN CO.,LTD.**-Osaka, Japan verklaren onder onze exclusieve verantwoordelijkheid dat het product waarop deze verklaring betrekking heeft, in overeenstemming is met de vereisten van de Richtlijn van de Raad van 22 juni 1998 inzake de onderlinge aanpassing van de wetgevingen van de Lid-Staten betreffende machines(2006/42/EG).

Vi **KUKEN CO.,LTD.**-Osaka, Japan erklærer herved under vort fulde ansvar at maskinen, som denne erklæring gælder for, er i overensstemmelse med de krav som findes i Ministerrådets direktiver af 22. Juni, 1998 om tilnærmning af medlemsstaternes love vedrørende maskindirektivet (2006/42/EF).

Vi, **KUKEN CO.,LTD.**-Osaka, Japan förklarar härmed på vårt fulla ansvar att maskinen för vilken denna deklaration gäller, överensstämmer med kraven i Ministerrådets direktiv av den 22 juni 1998 om harmonisering av Medlemsstaternas lagar rörande maskiner (2006/42/EG).

Vi **KUKEN CO.,LTD.**-Osaka, Japan erklærer under eget ansvar, at produktet hvortil denne erklæring relaterer seg, er i overensstemmelse med kravene i Rådets Direktiv av 22. juni 1998 vedr. tilnærmelse mellom medlemslandenes lover for maskiner (2006/42/EF).

Me **KUKEN CO.,LTD.**-Osaka, Japan vakuutamme olevamme yksinomaaisessa vastuussa siitä, että tämä tuote johon tämä ilmoitus viittaa on yhdenmukainen EY:n komission direktiivin, annettu 22 kesäkuuta 1998 kanssa, joka koskee yhteisön jäsenvaltioiden koneita koskevan lainsäädännön lähentämistä (2006/42/EY).

Εμείς **KUKEN CO.,LTD.**-Οζάκα, Ιαπωνία δηλώνει κάτω από τη μόνη ευθύνη μας ότι το προϊόν το οποίο αυτή η δήλωση αφορά, είναι σύμφωνα με τις απαιτήσεις της οδηγίας του Συμβουλίου της 22ας Ιουνίου 1998 σχετικά με την προσέγγιση των νομοθεσιών των κρατών μελών σχετικά με τα μηχανήματα (2006/42/EK).

Model / Modele / Modell / Modelo/  
Modello / Modelo / Model / Model /  
Typ / Model / Malli / Μοντέλο

**PTS-1000ES**

**PTS-3000ES**

**PTS-5000ES**

Name of and position of issuer / Nom et fonction de l'émetteur / Name und Position des Erstellers /  
Nombre y cargo del expedidor / Nome e posizione del dichiarante / Nome e cargo do emissor /  
Naam en functie van de uitgever / Udsteder, navn og stilling / Usteders navn og stilling / Utfärdarens  
namn och befattning / Ilmoituksen antajan nimi ja asema / Ονομα και θέση εκδότη

**MASAHARU MATSUOKA / MANAGING DIRECTOR**

Signature of issuer / Signature de l'émetteur / Unterschrift des Erstellers / Firma del expedidor /  
Firma del dichiarante / Assinatura do emissor / Handtekening van de uitgever / Udsteder, underskrift /  
Usteders signatur / Utfärdarens namnteckning / Ilmoituksen antajan allekirjoitus /  
Υπογραφή εκδότη

**KUKEN CO.,LTD.**

MANAGING DIRECTOR

Ver. 110325E