## 2. CONVENTIONAL TOOLS

 IMPACT SOCKETS and ACCESSORIES HEXAGONAL WRENCHES

TORX® WRENCHES BOX END WRENCHES


OPEN END WRENCHES and COMBINATION WRENCHES PROFIT® TOOLS HANDLE WRENCHES SCREWDRIVERS PLIERS, CUTTING PLIERS, SHEARS LOCKING PLIERS PROSNIP®
HAMMERS, CHISELS, and PUNCHES SCRAPERS, FILES and BRUSES ADJUSTABLE WRENCHES, PIPE WRENCHES and GEAR PULLERS


## Relentless pursuit of the mechanic standard tool



The "standard model for the 21st Century" has inherited its DNA from the world's highest standard tools "Nepros", and is polished using the latest technology.

That is the "21st Century Version Tool".


A new standard model, with over 50 years of history and technology, is designed with completely new concepts. Aiming for better service, better price, and better quality, we have completely revised our source materials, designs, construction and manufacturing process in order to achieve both high specs and reasonable prices.

## An all out challenge to the senses of the pro-mechanic

Tools are for use by mechanics at the site of maintenance. In order to get closer than ever to the senses of the pro-mechanic, we have repeatedly carried out uncompromising practical research and testing to achieve all of the requirements of the workplace at a higher level.

With DNA inherited from NEPROS, comes a beautiful design, improved maintainability, a richness of variation indispensable for a standard model that realize the world's highest class quality, functionality and evolution - and a reasonable price. The summation of KTC's technology, you'll understand why the "Tool that lasts 100 years" should rightly be called the mechanic standard when you use it.


## Newly designed silver case

We have painstakingly sought to perfect the trinity of functionality, endurance, and design. With beautiful lines and clean catches, every part of this beautiful all compact case has a futuristic feel. (Material: Steel)

| Metal case d.pat. |  |  |
| :--- | :---: | :---: |
| No. | Size |  |
| EKB-1 | L270×W $145 \times \mathrm{H} 50 \mathrm{~mm}$ |  |
| EKB-2 | L450×W $185 \times \mathrm{H} 60 \mathrm{~mm}$ |  |
| EKB-3 | $\mathrm{L} 270 \times \mathrm{W} 145 \times \mathrm{H} 35 \mathrm{~mm}$ |  |

## SOCKET

## Wide variation of sizes

Sockets are designed in shapes and lengths taking into account small working spaces. The standard is shorter and more compact than conventional products. The total length of the deep socket is designed Ionger, to make work in recessed areas easier. Furthermore, with the addition of the semi-deep sockets, which perform the middle role, a total of 3 lengths have been designed.
(The semi-deep design is only for 3/8"sp.)
6 point and 12 point sockets for

each size from $1 / 4$ " to $1 / 2$ "sq. Furthermore the "N-Power fit shape" using NEPROS technology is used anew at both the square drive and socket ends, so that as to be more gentle on the bolt and nut, and to improve the strength of the wrench than conventional Power fit*. The size variation is also rich, and milli size varies in millimeter increments. The inch sizes are also 5 times greater in variation than conventional products. We have achieved a truly full line up.

When tightening and loosening bolts and nuts with a normal wrench the force is concentrated because the inside face of the wrench and the ridge of the bolt or nut contact in a line, giving rise to burring. With $\overline{\mathrm{PO}} \mathrm{OE}$.erin the wrench changes to surface contact and concentration of force is prevented.



Power fit sockets

## RATCHET HANDLE

High functionality, high performance ratchet handle

Based on a slim form for the overall shape, the head in particular uses the same "unified claw" as the NEPROS to achieve a $20 \%$ reduction in thickness compared with a conventional product, and greater compactness. A 36 tooth gear is used to realize a narrow feed angle, and the gear is supported by claws in 2 places to achieve a 30\% increase in strength over conventional products.

In addition, the area from the head to the grip is designed on the key concept of $R$, so that it is easy to apply force no matter which part of the handle is grasped. A union mechanism whereby the socket cannot accidentally separate from the ratchet unless a push button is pushed is used as standard (except for BR3A). This enables smooth release, and reduces roughness when attaching a socket.


Conventional products have an 18 tooth gear supported in one place with a claw. The 21st Century Version makes use of NEPROS technology and has a 36 tooth gear supported by claws in 2 places. In this way, even in the case of a very fine gear, there is a $30 \%$ increase in strength over a conventional product.


We have provided a repair kit to enable customers to care for and maintain their ratchet for a life time of use.

## SPINNER HANDLE

## Strong, long design

Uses a thick round grip that is easy to grasp and apply force to. In addition, we have achieved a $20 \%$ increase in strength over a conventional product by revising the materials and optimizing the design.
By using a resin pad for the joint part, a smooth movement can be continued without the deep socket disengaging. Furthermore, we have been able to set the head height lower by using a new joint mechanism.
This has resulted in improved workability in confined spaces.


Please use the repair kit on the head part. This will ensure life long use of the tool.


## Functions designed for easier use

As the groove provided in the bar prevents the head from rotating, operation is made easier when, for example, an extension bar is attached.
The head can be locked in the center position. Furthermore, stoppers are provided at both ends of the bar, and when the head is at one end of the bar the head becomes almost flat with the bar so that the length of the bar, can be used effectively to apply force. Also, it is easier to work in confined spaces.


The head and bar become
almost flat.


## Wide variation of sizes

A newly designed form and revised materials make for maximum strength, 30 to $40 \%$ stronger than conventional products. (1/2"sq head turning type) Also, as with other accessories, the socket male side has had the form and ball position revised compared with conventional products. In addition, the socket female side also has a revised form and position for the ball groove, resulting in a design that reduces looseness.
Standard and head turning types are provided for all socket sizes, and the number of items is up 1.5 times compared with conventional product size variation.


## The design that minimizes any loosening.

The socket adapter connects the sockets, which have different drive sizes, to the driving tool. A new socket adapter was produced after a thorough review of the form and material of the old mode.
As in other accessories, the socket is designed to stop looseness, i.e. by placing the ball that pulls the socket toward the adapter. This gives greater stability.

## I- P.93 <br> HEX. BIT SOCKET \& DRIVER

## Wide variation of sizes

The new bit socket is a screw-down type that is easy to replace when the bit is worn. 3 different lengths (3/8" sq. only) for different operations along with the long ballpoint type are available. Imperial sizes are also added making a greatly increased line-up. The square form is employed for the grip of the hexagon driver, as it can easily produce large torque and it is also effective for pushing. An emblem is fitted to each grip-end so that the type and the size can be easily recognized.


## BOX END WRENCH

## Off-set angle $45^{\circ} \times 6^{\circ}$ that brings maximum power.

A new type of Box End wrench that pursues operation performance in conveying torque into hard to reach areas. In order to convey force more efficiently to the bolts \& nuts, the height and the length of the Off-set areas are kept to a minimum and the rising angle of the handle is of a low design.
The head is small but devised; it can easily reach onto bolts or nuts in hollow areas and can also be used
 in the opposite way around. Former product 21st Century vesion tool
"New spear-shape" head has the width that is one of the smallest in the world

The new spanner head has employed KTC original "new spear-shaped head" that has a much smaller head-width than the previous spear-shaped head but some parts are wider where force applies. The head width is Recognized as one of the smallest in the world. The corner of the caliber is R processed in order to prevent stress from accumulating. Satin and polished finishing brings out a beautiful form.


## COMBINATION WRENCH

## Simple form with real ability

New type combination wrench that exhibits real ability in extremely small spaces with simple form.
The spanner has the "new spear shaped head" which is one of the world's smallest. The handle is of a light and flexible l-shaped cross section design. In order to spread the load over the entire length, the setting has been extended further than in previous models.


## Wide variation of sizes

The end is shaped to fit exactly in relation to the screw, the gap between the screws is less and cam out (tendency to escape to the side) is reduced. Perfect catch with the screw through the use of magnets.
Fitted with square grips that are hard wearing with finger positions built into the design.
The outer surface is less slippery and easy to grip with bare hands, gloved hands or even oily hands with its curved design, this allows for a $30 \%$ preparation torque improvement on previous models.

The materials of the grip are a 3 layered compound of environmentally friendly propylene and easy fit elastomer resin. In order to easily identify the + and the -, the grip ends are colored as Red (+) and Green ( - )
The axle is of a hexagon design. It is effective when high torque is required, as it has a bolster attached (except in stubby versions) and an off-set wrench or spanner can also be used.


The grip is made of elastomer resin and is soft in the hand. The convex surface prevents slippage and can be used even with oily hands.

axis \& a bolster.

##  <br> PLIERS

## The "three-step form" can handle from thin to thick operations.

Combination pliers that have widely improved basic performance such as catching, gripping, rotating and cutting. The gripping area is made up of 3 separate toothed shaped areas that allow easy extraction of small to large items. The necessary cutting load required is $10 \%$ less than on previous models with a 20~30\% improvement for gripping power.

The safety design to help prevent catching hands, etc. when selecting the wider mouthed option is a function that has been inherited from NEPROS.


3 toothed shaped areas of the pliers


The blade shape has improved the fundamental performance greatly.

On reviewing the previous blade shape, the cutting load has been reduced on the new model by $15 \%$. 4 new variations of the previous model have been added: standard, long, slim, and bent nose. Choose the appropriate operation to suit oneself and one's working environment. The convex shape helps prevent slippage with a soft grip that fits the hand perfectly. (Common points for scissor types)


The cutting function for both soft and hard wires has been achieved in the one pair of pliers.

Generally speaking, when talking about nippers, 2 types of pliers were required for when cutting soft and hard wires. The new design has allowed for the 2 type of pliers to be combined into 1. The blade is designed to easily cut bronze and other soft wires at the tip end and harder wires such as piano wires and other much thicker wires at the base of the blade. This design has allowed for a reduction of around $15 \%$ in cutting load.


# 2. CONVENTIONAL TOOLS <br> SOCKETS and DRIVE TOOLS 



SOCKET WRENCH SETS

- READ THE CAUTION MESSAGE CAREFULLY FOR EACH TOOL. - LOCK THE STOPPER SECURELY WHEN CARRYING.

DRIVE TOOLS

- DO NOT EXTEND THE HANDLE OR BAR BY USING A PIPE.
INSERT THE SQUARE DRIVE TO THE END.
DO NOT USE A DRIVE TOOL AS A SUBSTITUTE FOR A HAMMER
DO NOT APPLY IMPACT TO A DRIVE TOOL BY HITTING WITH A HAMMER, ETC.
DO NOT USE A DRIVE TOOL WITH A POWER TOOL SUCH AS AN IMPACT WRENCH

SOCKETS
USE A SOCKET APPROPRIATE TO THE SIZE OF A BOLT OR NUT.
FIT THE BOLT HEAD OR NUT COMPLETELY INTO THE DEEP PART OF THE SOCKET FIT THE DRIVE SECTION TO COVER COMPLETELY THE BOLT HEAD OR NUT. DO NOT APPLY IMPACT BY HITTING WITH A HAMMER, ETC
DO NOT USE A SOCKET WITH A POWER
TOOL SUCH AS AN IMPACT WRENCH.
-1/4"sq. SOCKET WRENCH SET DIGITAL RATCHET MODEL POWERFIIT.

-1/4"sq. SOCKET WRENCH SET (13pcs.)

socket wrench set
No. TB206WG1 $\quad$ Fg $950 \quad$ ध1
Digital Ratchet GEK030-R2-L
(12pt) Socket (12pt.) GEK030-R2-L

Socket Holder (5pcs.) EHB205

- It is a set of advanced digital torque tool "digital ratchet" $๑ P .176$ and $1 / 4$ "sq. socket (12pt.).

- with Plastic Tray (L264×W82×H30mm)

-1/4"sq. SOCKET WRENCH SET (17pcs.)



1/4"sq. SOCKET WRENCH SET (25pcs.)


| SOCKET WRENCH SET (2 | mm - in |
| :---: | :---: |
| No. TB2X20B | Vkg 1.3 明 1 |
| Socket (6pt.) | B2-05, 055, 06, 07, 08, 10, 11, 12, 13, 14 |
| Socket (6pt.) in | B2-3/16, $7 / 32,1 / 4,9 / 32,5 / 16,11 / 32,3 / 8,7 / 16,1 / 2,9 / 16$ |
| Ratchet Handle | BR2E |
| Spinner Handle | BS2E |
| Extension Bar 50 | BE2-050 |
| 100 | BE2-100 |
| Wobble Extension Bar 30 | BE2-030JW |
| Metal Case | EKB-3 L270×W150xH35mm |
| - with Plastic Tray (L264×W144×H30mm) Poweirio (Except 5mm and 3/16in) |  |


| SOCKET WRENCH SET (2 | mm |
| :---: | :---: |
| No. TB2X20 | Vkg 1.3 ¢¢ 1 |
| Socket (6pt.) | B2-05, 055, 06, 07, 08, 10, 11, 12, 13, 14 |
| Deep Socket (6pt.) | B2L-05, 055, 06, 07, 08, 10, 11, 12, 13, 14 |
| Ratchet Handle | BR2E |
| Spinner Handle | BS2E |
| Extension Bar 50 | BE2-050 |
| 100 | BE2-100 |
| Wobble Extension Bar 30 | BE2-030JW |
| Metal Case | EKB-3 L270×W150×H35mm |
| - with Plastic Tray (L264×W | 30mm) ¢OWĖific (Except 5mm) |

-1/4"sq. SOCKET WRENCH SET (25pcs.)


| DEEP SOCKET WRENCH SET (15pcs.) |  |  |  |
| :--- | :--- | :--- | :---: |
| No. TB2L10 | $\boldsymbol{\nabla k g} 1.3$ | mm |  |
| Deep Socket (6pt.) | B2L-05, 055, 06, 07, 08, 10, 11, 12, 13, 14 |  |  |
| Ratchet Handle | BR2E |  |  |
| Spinner Handle | BS2E |  |  |
| Extension Bar | 50 | BE2-050 |  |
|  |  |  |  |
| Wobble Extension Bar 30 | BE2-100 |  |  |
| Metal Case | BE2-030JW |  |  |
| with Plastic Tray (L264×W144×H30mm) |  |  |  |

-1/4"sq. DEEP SOCKET WRENCH SET (15pcs.)


-1/4"sq. SOCKET WRENCH SET (5pcs.) • (10pcs.)


| SOCKET |  |  |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6pt. |  | 12pt. |  | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| B2 -032 |  |  |  | 3.2 | 6.5 | 12 | 2.5 | 16 | 8 | 9 | 10 |  |
| -04 |  |  |  | 4 | 7 | 12 | 3 | 16 | 8 | 9 | 10 |  |
| -045 |  |  |  | 4.5 | 7.5 | 12 | 3 | 16 | 8 | 9 | 10 |  |
| -05 |  |  |  | 5 | 8.5 | 12 | 3 | 16 | 8 | 9 | 10 |  |
| -055 | B2 | -055 |  | 5.5 | 9 | 12 | 5 | 18 | 10 | 9 | 10 |  |
| -06 |  | -06 |  | 6 | 10 | 12 | 5 | 18 | 10 | 10 | 10 |  |
| -07 |  | -07 |  | 7 | 11 | 12 | 5 | 18 | 10 | 10 | 10 |  |
| -08 |  | -08 |  | 8 | 12 | 13 | 5.5 | 18.5 | 10.5 | 12 | 10 |  |
| -09 |  | -09 |  | 9 | 13.5 | 13 | 5.5 | 18.5 | 10.5 | 13 | 10 |  |
| -10 |  | -10 |  | 10 | 14.5 | 13.5 | 5.5 | 18.5 | 10.5 | 13 | 10 |  |
| -11 |  | -11 |  | 11 | 16 | 14.5 | 6 | 19 | 11 | 16 | 10 |  |
| -12 |  | -12 |  | 12 | 17 | 15 | 6.5 | 20.5 | 12.5 | 19 | 10 |  |
| -13 |  | -13 |  | 13 | 18.5 | 16.5 | 6.5 | 20.5 | 12.5 | 22 | 10 |  |
| -14 |  | -14 |  | 14 | 20 | 17.5 | 7 | 21.5 | 13.5 | 27 | 10 |  |
| $\stackrel{\text { POWERPIIT }}{\text { ( }}$ (Except the following from 5 mm ) |  |  |  |  |  |  |  |  |  |  |  |  |
| SOCKET |  |  |  |  |  |  |  |  |  |  |  |  |
| 6pt. |  | 12pt. |  | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| B2 -1/8 |  |  |  | 3.1 | 6.5 | 12 | 2.5 | 16 | 8 | 9 | 10 |  |
| -5/32 |  |  |  | 3.9 | 7 | 12 | 3 | 16 | 8 | 9 | 10 |  |
| -3/16 |  |  |  | 4.7 | 8.5 | 12 | 3 | 16 | 8 | 9 | 10 |  |
| -7/32 |  | -7/32 |  | 5.5 | 9 | 12 | 5 | 18 | 10 | 9 | 10 |  |
| -1/4 |  | - $1 / 4$ |  | 6.3 | 10 | 12 | 5 | 18 | 10 | 10 | 10 |  |
| -9/32 |  | -9/32 |  | 7.1 | 11 | 12 | 5 | 18 | 10 | 10 | 10 |  |
| -5/16 |  | -5/16 |  | 7.9 | 12 | 13 | 5.5 | 18.5 | 10.5 | 12 | 10 |  |
| -11/32 |  | -11/32 |  | 8.7 | 13.5 | 13 | 5.5 | 18.5 | 10.5 | 13 | 10 |  |
| -3/8 |  | -3/8 |  | 9.5 | 14.5 | 13.5 | 5.5 | 18.5 | 10.5 | 13 | 10 |  |
| -7/16 |  | -7/16 |  | 11.1 | 16 | 14.5 | 6 | 19 | 11 | 16 | 10 |  |
| -1/2 |  | -1/2 |  | 12.7 | 18.5 | 16.5 | 6.5 | 20.5 | 12.5 | 24 | 10 |  |
| -17/32 |  | - 17/32 |  | 13.4 | 20 | 17.5 | 7 | 21.5 | 13.5 | 28 | 10 |  |
| -9/16 |  | -9/16 |  | 14.2 | 20 | 17.5 | 8 | 22.5 | 14.5 | 29 | 10 |  |

-1/4"sq. SOCKET


POWERFI. (Except the following from 3/16in)
-1/4"sq. DEEP SOCKET SET (5pcs.) • (10pcs.)



| DEEP SOCKET |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 pt . | 12pt. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| B2L-032 |  | 3.2 | 6.5 | 12 | 5 | 50 | 42 | 17 | 5 |  |
| -04 |  | 4 | 7 | 12 | 5 | 50 | 42 | 19 | 5 |  |
| -045 |  | 4.5 | 7.5 | 12 | 5 | 50 | 42 | 18 | 5 |  |
| -05 |  | 5 | 8.5 | 12 | 5 | 50 | 42 | 20 | 5 |  |
| -055 | B2L -055W | 5.5 | 9 | 12 | 6 | 50 | 42 | 24 | 5 |  |
| -06 | -06 W | 6 | 10 | 12 | 6 | 50 | 42 | 28 | 5 |  |
| -07 | -07 W | 7 | 11 | 12 | 8 | 50 | 42 | 27 | 5 |  |
| -08 | -08 W | 8 | 12 | 13 | 9 | 50 | 42 | 33 | 5 |  |
| -09 | -09 W | 9 | 13.5 | 13 | 10 | 50 | 42 | 41 | 5 |  |
| -10 | -10 W | 10 | 14.5 | 13.5 | 11 | 50 | 42 | 36 | 5 |  |
| -11 | -11 W | 11 | 16 | 14.5 | 12 | 50 | 42 | 46 | 5 |  |
| -12 | -12 W | 12 | 17 | 15 | 14 | 50 | 42 | 52 | 5 |  |
| -13 | -13 W | 13 | 18.5 | 16.5 | 14 | 50 | 42 | 59 | 5 |  |
| -14 | -14 W | 14 | 20 | 17.5 | 17 | 50 | 42 | 67 | 5 |  |
| ¢OWERITI\% (Except the following from 5 mm ) |  |  |  |  |  |  |  |  |  |  |
| DEEP SOCKET |  |  |  |  |  |  |  |  |  |  |
| 6 pt . | 12pt. | S | D1 | D2 | H | L | $\ell$ | Vg | ¢ |  |
| B2L -1/8 |  | 3.1 | 6.5 | 12 | 5 | 50 | 42 | 17 | 5 |  |
| -5/32 |  | 3.9 | 7 | 12 | 5 | 50 | 42 | 19 | 5 |  |
| -3/16 |  | 4.7 | 8.5 | 12 | 5 | 50 | 42 | 21 | 5 |  |
| -7/32 | B2L-7/32 W | 5.5 | 9 | 12 | 6 | 50 | 42 | 24 | 5 |  |
| -1/4 | -1/4 W | 6.3 | 10 | 12 | 6 | 50 | 42 | 28 | 5 |  |
| -9/32 | $-9 / 32 \mathrm{~W}$ | 7.1 | 11 | 12 | 8 | 50 | 42 | 27 | 5 |  |
| -5/16 | -5/16 W | 7.9 | 12 | 13 | 9 | 50 | 42 | 33 | 5 |  |
| $-11 / 32$ | $-11 / 32 \mathrm{~W}$ | 8.7 | 13.5 | 13 | 10 | 50 | 42 | 41 | 5 |  |
| -3/8 | $-3 / 8 \quad$ W | 9.5 | 14.5 | 13.5 | 11 | 50 | 42 | 39 | 5 |  |
| -7/16 | $-7 / 16$ W | 11.1 | 16 | 14.5 | 12 | 50 | 42 | 46 | 5 |  |
| -1/2 | -1/2 W | 12.7 | 18.5 | 16.5 | 14 | 50 | 42 | 66 | 5 |  |
| -17/32 | $-17 / 32 \mathrm{~W}$ | 13.4 | 20 | 17.5 | 17 | 50 | 42 | 71 | 5 |  |
| -9/16 | -9/16 W | 14.2 | 20 | 17.5 | 17 | 50 | 42 | 66 | 5 |  |


| RATCHET HANDLE |
| :--- |
| No. |
| BR2E |

Caution • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY,
OTHERWISE IT MAY CAUSE DAMAGE
! $!$ OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.

-1/4"sq. RATCHET HANDLE d.pat.

$1 / 4$ "sq. LONG RATCHET HANDLE d.pat.
-1/4"sq. SHORT RATCHET HANDLE ${ }_{\text {d.pat. }}$

LONG RATCHET HANDLE

| No. | Feed | B | T | $\mathbf{L}$ | $\boldsymbol{\nabla} \mathbf{g}$ | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BR2L | $10^{\circ}$ | 22 | 10 | 190 | 125 | 5 |  |

$\wedge^{\text {caution } \cdot E N S U R E ~ T H A T ~ T H E ~ S W I T C H ~ L E V E R ~ H A S ~ B E E N ~ S E T ~ P R O P E R L Y, ~}$ OTHERWISE IT MAY CAUSE DAMAGE OR IDLING. BE CAREFUL ABOUT OVER TORQUE, AS THE WHOLE LENGTH LONG ENOUGH TO APPLY EXCESSIVE LOAD.
■REPAIR KIT FOR $1 / 4$ "sq. RATCHET HEAD


| SHORT RATCHET HANDLE |
| :--- |
| No. |
| FR2S |

caution • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.
-REPAIR KIT FOR $1 / 4$ "sq. RATCHET HEAD

| No. | Drive | Contents |  |
| :--- | :---: | :--- | :--- |
| BR2E-K | $1 / 4$ "sq. | Drive gear $\cdot$ Claw $\cdot$ Steel ball • <br> Coil spring Lever <br> Pan head screw (small) $\cdot$ Lid $\times 1$, <br> Flat head screw (small) $\times 2$ |  |



| FLEX RATCHET HANDLE |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Feed | B | T | L | Vg | ¢ |  |
| BR2F | $10^{\circ}$ | 22 | 10 | 125 | 140 | 5 |  |

-1/4"sq. FLEX RATCHET HANDLE ${ }_{\text {d.pat. }}$

-1/4"sq. FLEX LONG RATCHET HANDLE ${ }_{\text {d.pat. }}$

-1/4"sq. FLEX SHORT RATCHET HANDLE d.pat.



- Grip end has an opening. Usable as extension bar.
$\bigwedge^{\text {caution }} \cdot$ DO NOT USE MULTIPLE EXTENSION.


01/4"sq. SPINNER HANDLE pat.p. -1/4"sq. LONG SPINNER HANDLE pat.p.


| FLEX LONG RATCHET HANDLE |
| :--- |
| No. |

Caution • IN FLEXIBLE PART, TOO MUCH FORCE MAKES MOVEMENT UNSTABLE

- ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, OTHERWISE IT MAY CAUSE DAMAGE OR IDLING. - BE CAREFUL ABOUT OVER TORQUE, AS THE WHOLE LENGTH LONG ENOUGH TO APPLY EXCESSIVE LOAD.

-1/4"sq. SCREWDRIVER TYPE HANDLE


| SLIDE HEAD HANDLE |
| :--- |
| No. |
| BHM2 |

- In the workplace (car maintenance, etc.), whether quick turning
strong tightening this tool is faster than a ratchet handle.
- A track has been fitted to the handle to prevent the head from turning.

-1/4"sq. QUICK SPINNER®д.рат.

-1/4"sq. EXTENSION BAR

BE2-075


QUICK SPINNER ${ }_{\text {© }}$

| No. | D | d | $\mathbf{L}$ | $\boldsymbol{\ell}$ | $\boldsymbol{\nabla} \mathbf{g}$ | $\oplus$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BE2-Q | 28 | 12 | 19.5 | 8 | 25 | 10 |

- Specially for quick turning for effective use with Ratchet handle or Extension bar
- Grip has angle $\left(90^{\circ}\right)$ indication by groove with $30^{\circ}$ indication on surface.
- Grip is made of resin for light weight.
$\rfloor^{\text {CAUTION }}$
- DO NOT USE MULTIPLE EXTENSION.
*Quick Spinner is a registered trademark of the Kyoto Tool Co., Ltd.

| EXTENSION BAR <br> No. $\mathbf{D}_{1}$ |
| :--- |
| BE2 -030 |
| $\mathbf{- 0 5 0}$ |

$\rfloor^{\text {CAUTION }} \cdot$ DO NOT USE MULTIPLE EXTENSION
-1/4"sq. WOBBLE EXTENSION BAR

WOBBLE EXTENSION BAR

| No. | $\mathbf{D}_{1}$ | $\mathbf{D}_{\mathbf{2}}$ | $\mathbf{L}$ | $\boldsymbol{\nabla}$ g | $\in$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BE2 -030JW | 9 | 12 | 30 | 17 | 5 |  |
| -050JW | 9 | 12 | 50 | 27 | 5 |  |
| -075JW | 8 | 12 | 75 | 38 | 5 |  |
| -100JW | 8 | 12 | 100 | 48 | 5 |  |
| -150JW | 8 | 12 | 150 | 70 | 5 |  |
| -200JW | 8 | 12 | 200 | 90 | 5 |  |
| -270JW | 8 | 12 | 270 | 118 | 5 |  |

caution - COMPARED WITH ORDINARY EXTENSION BAR, IT ENDURES LOWER LOAD POWERATI FOR ITS MECHANISM. DO NOT APPLY EXCESSIVE POWER OR IMPACT. DO NOT USE MULTIPLE EXTENSION.

| FLEXIBLE EXTENSION BAR |
| :--- |
| No. |
| BES10 -150 |

- This is a handy tool when tightening or loosening nuts \& bolts when the angle is difficult or the area is confined. (e.g. bolts inside the dash).
- FOR TEMPORARY
FASTENING ONLY. DO
NOT APPLY EXCESSIVE
POWER.
- DO NOT USE MULTIPLE
EXTENSIONS.

-1/4"sq. UNIVERSAL JOINT

$1 / 4$ "sq. INTERNAL $\times 3 / 8$ "sq. EXTERNAL DRIVE ADAPTOR


$\bigwedge^{\text {caution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE FLEX PART.


! caution - FOR MAXIMUM TORQUE OF THE ADAPTOR, REFER TO THE SMALLER SIZE. DO NOT APPLY EXCESSIVE POWER.


- Quick Spinning is possible by the product itself unlike socket adaptor.
- It can be used with the total length shortened compared to socket adaptor since indents and notches are matched at the same position. (Below)
- Detachment and retention of socket is easy with the magnet.
- Grip has a shape that's hard to slip and easy to spin quickly.


| SOCKET HOLDER • CLIP SET (7pcs.) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | H | A | L | Vg | $\oplus$ |  |
| EHB205 | 5 | 19 | 25 | 165 | 55 | 10 |  |
| EHB210 | 10 | 19 | 25 | 215 | 60 | 10 |  |
| EHB215 | 15 | 19 | 25 | 315 | 80 | 10 |  |

- Change of holder shape enables easier insertion/removal of socket and increased holding strength compared with previous model. (Does not fall off so easily while carrying). • Different colors for different sizes A ${ }^{\text {antono. }}$. Reversing holder may make sockets falling.

| No. EHB27 | $\boldsymbol{\nabla g} 25$ | $\epsilon ⿴ 10$ |
| :--- | :--- | :--- |
| CLIP | 7 pcs. |  |

- Spare clip for EHB205, 210 and 215.
- Can be used for EHB305-315 and 405-410

ALUMINUM SOCKET HOLDER

| No. | sq. | Number of clips | H | A | L | $\boldsymbol{\nabla}$ g | $\epsilon$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EHBA210 | $1 / 4^{\prime \prime}$ | 10 | 17 | 28.5 | 305 | 175 | 1 |  |

- Clip is a ball-lock type that prevents the socket from suddenly falling out.
- Rail color differs by the square, allowing the easy identification of socket.
- Since the rail size is uniform, sockets with various squares can be stored by interchanging the clip.
$\rfloor^{\text {caution }}$. Socket may fall off if the socket holder is turned upside down. - It cannot be mounted on a surface that's perpendicular to the ground.
- Supply parts

| No. | Product Name |  |
| :--- | :---: | :---: |
| EHBAC-2 | $1 / 4$ "sq. Clip Set [10pcs.] |  |
| EHBASC | Side Cover [2pcs. Set] |  |

* Clip can be commonly used for EHBA210, EHBA310 and EHBA410.


## -ALUMINUM SOCKET HOLDER


-1/4"sq. SOCKET HOLDER • CLIP SET d.pat.

-1/4"sq. QUICK SPINNING ADAPTOR D.PAT.


Good Design Award Winning Product


Stopper
EHB215

## SOCKET WRENCH SET

No. TB306WG1
Digital Ratchet
Socket (12pt.)
Socket Holder (5pcs.)
E EHB305

- It is a set of advanced digital torque tool "Digital Ratchet" $\bigcirc$ P. 176 and 3/8"sq. socket (12pt.).
-3/8"sq. SOCKET WRENCH SET DIGITAL RATCHET MODEL



## SOCKET WRENCH SET

| No. TB306WG2 | Fkg 1.3 eq 1 |
| :---: | :---: |
| Digital Ratchet | GEK085-R3-L |
| Socket (12pt.) | B3-10W, 12W, 14W, 17W, 19W |
| Socket Holder (5pcs.) | EHB305 |

-3/8"sq. SOCKET WRENCH SET DIGITAL RATCHET MODEL


## SOCKET WRENCH SET

| No. TB306WG3 | Vkg 1.1 $\quad$ G 1 |
| :--- | :--- |
| Digital Ratchet | GEK030-C3-L |
| Socket (12pt.) | B3-07W, 08W, 10W, 12W, 14W |
| Socket Holder (5pcs.) | EHB305 |
| - It is a set of advanced digital torque tool "Digital Ratchet" $\bigcirc$ P. 176 and 3/8"sq. socket |  |

- It is a set of advanced digital torque tool "Digital Ratchet" - P. 176 and $3 / 8$ "sq. socket 1 (12pt.). (12pt.).
-3/8"sq. SOCKET WRENCH SET DIGITAL RATCHET MODEL

－3／8＂sq．SOCKET WRENCH SET（12pcs．）


| SOCKET WRENCH SET（12pcs．） |  | mm －in |
| :---: | :---: | :---: |
| No．TB308 | Vkg 1.7 ¢ 1 |  |
| Socket（6pt．） | B3－07，08，10，12，13，14，17， 19 |  |
| No．TB308X | Vkg 1.7 ¢ 1 |  |
| Socket（6pt．） | B3－07，08，10， 12 |  |
| Socket（12pt．） | B3－13W，14W，17W，19W |  |
| No．TB308BX | Vkg 1.7 ¢ 1 |  |
| Socket（6pt．）in | B3－3／8， $7 / 16$ |  |
| Socket（12pt．）in | B3－1／2W， $9 / 16 \mathrm{~W}, 19 / 32 \mathrm{~W}, 5 / 8 \mathrm{~W}, 11 / 16 \mathrm{~W}, 3 / 4 \mathrm{~W}$ |  |
| Common liems |  |  |
| Ratchet Handle | BR3E |  |
| Extension Bar 50 | BE3－050 |  |
| 100 | BE3－100 |  |
| Universal Joint | $\stackrel{\text { BJ3 }}{\text { EHB3 }}$ |  |
| Metal Case | EKB－1 L270×W145×H50mm |  |
| －with Plastic Tray（L265×W145×H38mm） |  | POWCRIT |

－3／8＂sq．SOCKET WRENCH SET（21pcs．）


| SOCKET WRENCH SET（19pcs．） |  | mm |
| :---: | :---: | :---: |
| No．TB312X | Vkg 3.8 ¢ 1 |  |
| Socket（6pt．） | B3－055，07，08，10， 12 |  |
| Socket（12pt．） | B3－13W，14W，15W，17W， | 19W，21W，22W |
| Ratchet Handle | BR3E |  |
| Spinner Handle | BS3E |  |
| Extension Bar 75 | BE3－075 |  |
| 150 | BE3－150 |  |
| 270 | BE3－270 |  |
| Wobble Extension Bar 50 | BE3－050JW |  |
| Universal Joint | BJ3 |  |
| Socket Holders（10pcs．） | EHB310 |  |
| Metal Case | EKB－2 L450×W185×H60mm |  |
| －with Plastic Tray（L445×W | 2mm） | POWER9\％ |


| SOCKET WRENCH SET（21pcs．） |  |
| :---: | :---: |
| No．TB314 | Vkg 3.8 ¢ 1 |
| Socket（6pt．） | B3－055，07，08，09，10，11，12，13，14，15，17，19，21， 22 |
| Ratchet Handle | BR3E |
| Spinner Handle | BS3E |
| Extension Bar 75 | BE3－075 |
| 150 | BE3－150 |
| 270 | BE3－270 |
| Wobble Extension Bar 50 | BE3－050JW |
| Universal Joint | BJ3 |
| Socket Holders（10pcs．） | EHB310 |
| Metal Case | EKB－2 L450×W185×H60mm |
| －with Plastic Tray（L445×W185xH52mm）¢0waiait |  |

－3／8＂sq．SOCKET WRENCH SET（25pcs．）



| SOCKET WRENCH SET (26pcs.) |  | mm |
| :---: | :---: | :---: |
| No. TB3X20 | Fkg 4.3 ¢ 1 |  |
| Socket (6pt.) | B3-055, 07, 08, 10, 12 |  |
| Socket (12pt.) | B3-13W, 14W, 15W, 17W, 19W |  |
| Deep Socket (6pt.) | B3L-07, 08, 10, 12 |  |
| Deep Socket (12pt.) | B3L-13W, 14W, 15W, 17W, 19W, 22W |  |
| Ratchet Handle | BR3E |  |
| Spinner Handle | BS3E |  |
| Extension Bar 30 | BE3-030 |  |
| 75 | BE3-075 |  |
| Wobble Extension Bar | BE3-050JW |  |
| Universal Joint | BJ3 |  |
| Socket Holders (10pcs.) | EHB310 |  |
| Metal Case | EKB-2 L450×W185×H60mm |  |

Metal Case EKB-2
-3/8"sq. SOCKET WRENCH SET (26pcs.)

-3/8"sq. SOCKET SET (5pcs.) • (10pcs.) $\nabla \mathrm{g} 500$ ध 1
B3-08, 10, 12, 14, 17
EHB305
Socket Holder (5pcs.) Fkg 1 ध日 1
B3-07, 08, 10, 11, 12, 13, 14, 17, 19, 22 EHB310

POWERTM.

| SOCKET SET (5pcs.) •(10pcs.) |  |  |
| :--- | :--- | :--- |
| No. TB305E | $\nabla \mathrm{g} \mathrm{500}$ | m |
| Socket (6pt.) | B3-08, 10, 12, 14, 17 |  |
| Socket Holder (5pcs.) | EHB305 |  |



TB305E

| SOCKET |  |  |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 pt . |  | 12pt. |  | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| B3-055 | B3 | -055 | W | 5.5 | 9 | 17 | 5 | 22 | 10.5 | 19 | 5 |  |
| -06 |  | -06 | w | 6 | 10 | 17 | 5 | 22 | 10.5 | 20 | 5 |  |
| -07 |  | -07 | W | 7 | 11 | 17 | 5 | 22 | 10.5 | 20 | 5 |  |
| -08 |  | -08 | w | 8 | 12 | 17 | 5.5 | 22 | 10.5 | 20 | 5 |  |
| -09 |  | -09 | w | 9 | 13.5 | 17 | 5.5 | 22 | 10.5 | 21 | 5 |  |
| -10 |  | -10 | w | 10 | 14.5 | 17 | 5.5 | 22 | 10.5 | 20 | 5 |  |
| -11 |  | -11 | w | 11 | 16 | 17 | 6 | 23 | 11.5 | 23 | 5 |  |
| -12 |  | -12 | w | 12 | 17 | 18 | 7.5 | 24 | 12.5 | 26 | 5 |  |
| -13 |  | -13 | w | 13 | 18.5 | 18 | 7.5 | 24 | 12.5 | 28 | 5 |  |
| -14 |  | -14 | w | 14 | 20 | 19 | 8.5 | 25 | 13.5 | 34 | 5 |  |
| -15 |  | -15 | w | 15 | 21 | 20 | 8.5 | 26 | 14.5 | 35 | 5 |  |
| -16 |  | -16 | w | 16 | 22 | 21 | 9 | 26 | 14.5 | 41 | 5 |  |
| -17 |  | -17 | w | 17 | 24 | 22 | 10 | 27 | 15.5 | 51 | 5 |  |
| -18 |  | -18 | w | 18 | 25 | 23 | 10 | 27 | 15.5 | 58 | 5 |  |
| -19 |  | -19 | w | 19 | 26 | 24 | 10.5 | 27 | 15.5 | 62 | 5 |  |
| -20 |  | -20 | w | 20 | 27.5 | 25 | 11 | 28 | 16.5 | 71 | 5 |  |
| -21 |  | -21 | W | 21 | 28.5 | 26.5 | 11.5 | 28 | 16.5 | 81 | 5 |  |
| -22 |  | -22 | w | 22 | 30 | 27.5 | 11.5 | 28 | 16.5 | 86 | 5 |  |
| -23 |  | -23 | W | 23 | 31 | 28.5 | 12 | 29 | 17.5 | 94 | 5 |  |
| -24 |  | -24 | w | 24 | 32.5 | 30 | 12 | 29 | 17.5 | 115 | 5 |  |


－3／8＂sq．SEMI－DEEP SOCKET SET（5pcs．）


| SEMI－DEEP SOCKET SET（5pcs．） |  |  | mm |
| :---: | :---: | :---: | :---: |
| No．TB3M05 | Vg 400 | $\oplus 1$ |  |
| Semi－Deep Socket（6pt．） | B3M－08， | ，14， 17 |  |
| Socket Holder（5pcs．） | EHB305 |  |  |

## －3／8＂sq．SEMI－DEEP SOCKET



| SEMI－DEEP SOCKET |  |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 pt ． | 12pt． |  | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| B3M－055 | B3M－055 | W | 5.5 | 9 | 17 | 6 | 40 | 28.5 | 29 | 5 |  |
| －06 | －06 | W | 6 | 10 | 17 | 6 | 40 | 28.8 | 31 | 5 |  |
| －07 | －07 | W | 7 | 11 | 17 | 8 | 40 | 28.5 | 30 | 5 |  |
| －08 | －08 | w | 8 | 12 | 17 | 9 | 40 | 28.5 | 33 | 5 |  |
| －09 | －09 | W | 9 | 13.5 | 17 | 10 | 40 | 28.5 | 37 | 5 |  |
| －10 | －10 | W | 10 | 14.5 | 17 | 11 | 40 | 28.5 | 34 | 5 |  |
| －11 | －11 | W | 11 | 16 | 17 | 12 | 40 | 28.5 | 39 | 5 |  |
| －12 | －12 | w | 12 | 17 | 18 | 14 | 40 | 28.5 | 45 | 5 |  |
| －13 | －13 | W | 13 | 18.5 | 18 | 14 | 50 | 38.5 | 61 | 5 |  |
| －14 | －14 | w | 14 | 20 | 19 | 17 | 50 | 38.5 | 71 | 5 |  |
| －15 | －15 | W | 15 | 21 | 20 | 17 | 50 | 38.5 | 74 | 5 |  |
| －16 | －16 | w | 16 | 22 | 21 | 17 | 50 | 38.5 | 79 | 5 |  |
| －17 | －17 | W | 17 | 24 | 22 | 17 | 50 | 38.5 | 95 | 5 |  |
| －18 | －18 | W | 18 | 25 | 23 | 21 | 50 | 38.5 | 108 | 5 |  |
| －19 | －19 | W | 19 | 26 | 24 | 21 | 50 | 38.5 | 111 | 5 |  |
| －20 | －20 | W | 20 | 27.5 | 25 | 21 | 50 | 38.5 | 124 | 5 |  |
| －21 | －21 | W | 21 | 28.5 | 26.5 | 21 | 50 | 38.5 | 141 | 5 |  |
| －22 | －22 | w | 22 | 30 | 27.5 | 21 | 50 | 38.5 | 151 | 5 |  |
| －23 | －23 | W | 23 | 31 | 28.5 | 21 | 50 | 38.5 | 155 | 5 |  |
| －24 | －24 | w | 24 | 32.5 | 30 | 21 | 50 | 38.5 | 176 | 5 |  |


| DEEP SOCKET |  |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 pt ． | 12pt． |  | S | D | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| B3L－055 | B3L－055 | W | 5.5 | 9 | 17 | 6 | 60 | 48.5 | 40 | 5 |  |
| －06 | －06 | W | 6 | 10 | 17 | 6 | 60 | 48.5 | 44 | 5 |  |
| －07 | －07 | w | 7 | 11 | 17 | 8 | 60 | 48.5 | 44 | 5 |  |
| －08 | －08 | W | 8 | 12 | 17 | 9 | 60 | 48.5 | 49 | 5 |  |
| －09 | －09 | w | 9 | 13.5 | 17 | 10 | 60 | 48.5 | 57 | 5 |  |
| －10 | －10 | W | 10 | 14.5 | 17 | 11 | 65 | 53.5 | 56 | 5 |  |
| －11 | －11 | w | 11 | 16 | 17 | 12 | 65 | 53.5 | 67 | 5 |  |
| －12 | －12 | w | 12 | 17 | 18 | 14 | 65 | 53.5 | 78 | 5 |  |
| －13 | －13 | W | 13 | 18.5 | 18 | 14 | 70 | 58.5 | 87 | 5 |  |
| －14 | －14 | w | 14 | 20 | 19 | 17 | 70 | 58.5 | 92 | 5 |  |
| －15 | －15 | w | 15 | 21 | 20 | 17 | 70 | 58.5 | 95 | 5 |  |
| －16 | －16 | W | 16 | 22 | 21 | 17 | 70 | 58.5 | 102 | 5 |  |
| －17 | －17 | w | 17 | 24 | 22 | 17 | 70 | 58.5 | 130 | 5 |  |
| －18 | －18 | W | 18 | 25 | 23 | 21 | 70 | 58.5 | 147 | 5 |  |
| －19 | －19 | W | 19 | 26 | 24 | 21 | 70 | 58.5 | 150 | 5 |  |
| －20 | －20 | W | 20 | 27.5 | 25 | 23 | 70 | 58.5 | 165 | 5 |  |
| －21 | －21 | w | 21 | 28.5 | 26.5 | 23 | 70 | 58.5 | 188 | 5 |  |
| －22 | －22 | W | 22 | 30 | 27.5 | 23 | 70 | 58.5 | 203 | 5 |  |
| －23 | －23 | w | 23 | 31 | 28.5 | 27 | 70 | 58.5 | 200 | 5 |  |
| －24 | －24 | w | 24 | 32.5 | 30 | 27 | 70 | 58.5 | 229 | 5 |  |
| DEEP SOCKET |  |  |  |  |  |  |  |  |  |  |  |
| 6 pt ． | 12pt． |  | S | D ${ }_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ${ }_{\text {¢ }}$ |  |
| B3L－1／4 | B3L－1／4 | w | 6.3 | 10 | 17 | 6 | 60 | 48.5 | 42 | 5 |  |
| －9／32 |  | w | 7.1 | 11 | 17 | 8 | 60 | 48.5 | 44 | 5 |  |
| －5／16 |  | w | 7.9 | 12 | 17 | 9 | 60 | 48.5 | 45 | 5 |  |
| －11／32 |  | W | 8.7 | 13.5 | 17 | 10 | 60 | 48.5 | 50 |  |  |
| －3／8 |  | w | 9.5 | 14 | 17 | 11 | 65 | 53.5 | 55 | 5 |  |
| －7／16 |  | w | 11.1 | 16 | 17 | 12 | 65 | 53.5 | 61 | 5 |  |
|  |  | w | 12.7 | 18.5 | 18 | 14 | 70 | 58.5 | 80 | 5 |  |
| －1／32 |  | w | 13.4 | 20 | 19 | 14 | 70 | 58.5 | 92 | 5 |  |
| －9／16 |  | w | 14.2 | 20 | 19 | 17 | 70 | 58.5 | 92 | 5 |  |
| －19／32 |  |  | 15 |  | 20 | 17 | 70 | 58.5 | 95 | 5 |  |
| －5／8 | －5／8 | w | 15.8 | 22 | 21 | 17 | 70 | 58.5 | 102 | 5 |  |
| －21／32 |  |  | 16.6 | 24 | 22 | 17 | 70 | 58.5 | 123 |  |  |
| －11／16 |  | w | 17.4 |  | 22 | 17 | 70 | 58.5 | 123 | 5 |  |
| ${ }^{-25 / 32}$ | ${ }_{-25} / 25$ | w | 19.8 | 27.5 | 25 | 23 | 70 | 58.5 | 165 | 5 |  |
| －3／16 |  | w | 20.6 | 28.5 | 26.5 | 23 | 70 | 58.5 | 180 | 5 |  |
| －7／8 | －7／8 | w | 22.2 | 30 | 27.5 | 23 | 70 | 58.5 | 186 | 5 |  |

## 


－3／8＂sq．DEEP SOCKET




| LONG DEEP SOCKET • SET |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | d | H | L | $\ell$ | Vg | $\oplus$ |  |
| B3LL -10 | 10 | 14.5 | 18 | 8 | 11 | 130 | 113 | 115 | 5 |  |
| -12 | 12 | 17.7 | 18 | 9 | 12 | 130 | 113 | 140 | 5 |  |

■Usage

- Tightening \& loosening of bolts and nuts that are either long and jut out or are in hard to reach areas.
No. B3TLL2 $\quad$ g g $255 \quad$ ध 1

Long Deep Socket (6pt.) B3LL-10, 12
-Application

- Rear bumper cover installation bolt, Door knob inner installation bolt, Door hinge bolt, side louver installation bolt
- Bumper reinforcement installation bolt, Air bag adjusting bolt, Tension pulley adjustment bolt
- Installation bolts and nuts of the under carriage
- Use where Spanners, Off-set wrenches, Deep sockets, etc., are difficult to use in hard to reach areas


MAGNETIC DEEP SOCKET SET(5pcs.)
No.TB3LO5MGA
Vg 480
B3L-08MGA, 10MGA, 12MGA, 13MGA, 14MGA
Socket Holder (5pcs.) EHB305

- Prevents the falling of bolt • nut with the built-in magnet in the bore.
- Since the magnet part slides, it supports the bolt with washer, thin nut and stud bolts.
- Powerful neodymium magnet is used.
-3/8"sq. LONG DEEP SOCKET•SET




## -3/8"sq. CROWFOOT WRENCH SET (5pcs.)



## -3/8"sq. CROWFOOT WRENCH



-3/8"sq. TWIST SOCKET • SET (10pcs.)

-3/8"sq. TWIST SOCKET


| CROWFOOT WRENCH SET(5pcs.) |  |
| :--- | :--- |
| No.TBNS305W | $\mathbf{\nabla g} 490 \quad$ BN |
| Crowfoot Wrench | BNS3-10W, 12W, 14W, 17W, 19W |
| Socket Holder (10pcs.) | EHB310 |

- For the loosening/tightening work of flare nut that's used in the hydraulic piping of automobiles and general industrial machinery.
- Approach to nuts is easy with the double hex. bore.
- Since the distance from the bore to drive center is unified at 30 mm , conversion during the use of torque wrench does not change depending on the size.

| CROWFOOT WRENCH |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | C | L | W | T | B | Vg |  |
| BNS3-08W | 8 | 5 | 49 | 22 | 9.5 | 30 | 48 |  |
| BNS3-10W | 10 | 6 | 49 | 22 | 9.5 | 30 | 46 |  |
| BNS3-11W | 11 | 7 | 49 | 22 | 9.5 | 30 | 44 |  |
| BNS3-12W | 12 | 8 | 52 | 29 | 11 | 30 | 71 |  |
| BNS3-13W | 13 | 9 | 52 | 29 | 11 | 30 | 69 |  |
| BNS3-14W | 14 | 10 | 52 | 29 | 11 | 30 | 67 |  |
| BNS3-17W | 17 | 12 | 55.5 | 35 | 13 | 30 | 94 |  |
| BNS3-19W | 19 | 13 | 55.5 | 35 | 13 | 30 | 89 |  |

- For the loosening/tightening work of flare nut that's used in the hydraulic piping of automobiles and general industrial machinery.
- Approach to nuts is easy with the double hex. bore.
- Since the distance from the bore to drive center is unified at 30 mm , conversion during the use of torque wrench does not change depending on the size.

length torque wrench

Torque conversion formula:
$\frac{A}{(A+B)} \times$ Required torque value $=$ Input torque value

* Numerical values of dimension B in the upper right dimension drawing ( 30 mm ) applies when there is a central axis of crowfoot wrench on the central axis extension of torque wrench (left). If there is no central axis of crowfoot wrench on the central axis extension of torque wrench as shown in the figure on the right, please measure the actual dimension B and apply to the conversion formula.

| TWIST SOCKET • SET | mm |
| :---: | :---: |
| No. TB3TW06 $\quad$ Vg 430 团 |  |
| Twist Socket B3TW-12, 13, 14, 15, | , 17 |
| Socket Holder (10pcs.) EHB310 |  |
| - For loosening bolts which are rounded off and stud bolts <br> - Easy to remove because of twist configuration. |  |
| * Removed bolt and nut are nonrecyclable. <br> * Using sizes differ depending on the damaged condition on bolt and nut. <br> Choose the size after seeing the actual stuff. <br> $\rfloor^{\text {caution }}$ <br> - Do not use a socket with a power tool such as | Rotational direction (Right tightening for exclusive use) |


| TWIST SOCKET • SET | mm |
| :---: | :---: |
| No. TB3TW10 |  |
| Twist Socket B3TW-08, 09, 10, 11, | B3TW-08, 09, 10, 11, 12, 13, 14, 15, 16, 17 |
| Socket Holder (10pcs.) EHB310 |  |
| - For loosening bolts which are rounded off and stud bolts. <br> - Easy to remove because of twist configuration. |  |
| * Removed bolt and nut are nonrecyclable. <br> * Using sizes differ depending on the damaged condition on bolt and nut. <br> Choose the size after seeing the actual stuff. <br> $\rfloor^{\text {caution }}$ <br> - Do not use a socket with a power tool such as | Rotational direction (Right tightening for exclusive use) | an impact wrench.


| TWIST SOCKET |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\nabla \mathrm{g}$ | ¢ |  |
| B3TW-08 | 8 | 13 | 19 | 8 | 32 | 40 | 5 |  |
| -09 | 9 | 14.5 | 19 | 8 | 32 | 45 | 5 |  |
| -10 | 10 | 16 | 19 | 10 | 32 | 47 | 5 |  |
| -11 | 11 | 17.5 | 19 | 10 | 32 | 49 | 5 |  |
| -12 | 12 | 18.5 | 19 | 12 | 32 | 50 | 5 |  |
| -13 | 13 | 20 | 19 | 12 | 32 | 51 | 5 |  |
| -14 | 14 | 21 | 19 | 14 | 32 | 53 | 5 |  |
| -15 | 15 | 22.5 | 19 | 14 | 32 | 55 | 5 |  |
| -16 | 16 | 24 | 22 | 14 | 32 | 65 | 5 |  |
| -17 | 17 | 26 | 22 | 16 | 35 | 70 | 5 |  |

$\bigwedge^{\text {awrow }}$. Do not use a socket with a power tool such as an impact wrench.

SOCKET WRENCH FOR ELBOW CONNECTOR
OSOCKET WRENCH FOR ELBOW CONNECTOR

| No. | sq. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | A | B | $\mathbf{\nabla g}$ | $\in ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{ABX6} 612$ | 9.5 | 12 | 18.5 | 18 | 14 | 50 | 14 | 12 | 60 | 5 |  |

ABX6-12
ABX6-14
ABX6-17
ABX6-19
ABX6-22

Usage • Tightening tool for one-touch elbow connector that's used for trucks of 4 t or more.

- Width across flats 34 mm is for the tightening and loosening of connector for check valve that's used for Isuzu trucks
- It can also be used to tighten and loosen elbow connectors (L-shape piping joint) used for general maintenance machinery.
- ABX6-36 is $1 / 2$ "sq. model


$|$| RATCHET HANDLE |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Feed | B | T | L | $\boldsymbol{\nabla g}$ | $\epsilon$ |  |
| BR3E | $10^{\circ}$ | 33 | 13.5 | 180 | 260 | 5 |  |

$\lambda^{\text {caution } \cdot \text { ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY }}$
! OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.

■3/8"sq. Ratchet head repair kit No

| No. | Drive | Contents |
| :---: | :---: | :---: |
| BR3E-K | 3/8"sq. | Drive gear • Claw • Steel ball Coil spring • Lever . Pan head screw (small) • Lid $\times 1$, |

## RATCHET HANDLE (NO UNION MECHANISM TYPE)


-3/8"sq. RATCHET HANDLE

-3/8"sq. RATCHET HANDLE ס.pat.

| No. | Feed | B | T | $\mathbf{L}$ | $\boldsymbol{\nabla}$ g | $\oplus ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BR3A | $10^{\circ}$ | 33 | 13.5 | 180 | 260 | 5 |  |

- Slippage is prevented by using the ratchet while pressing down on the anti-slip area of the central part of the head
CaUton • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY,
! OTHERWISE IT MAY CAUSE DAMAGE OR IDLING
■3/8"sq. Ratchet head repair kit

! ${ }^{\text {caution } \cdot \text { DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO }}$ DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO APPLY EXCESSIVE LOAD
■3/8"sq. Ratchet head repair kit


| FLEX RATCHET HANDLE |
| :--- |
| No. |
| BR3F |

$A^{\text {caution }}$ •IN FLEXIBLE PART, TOO MUCH FORCE MAKES MOVEMENT UNSTABLE. - ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, OTHERWISE IT MAY CAUSE DAMAGE OR IDLING
—3/8"sq. Ratchet head repair kit

| 3/8 Sq. Ratchet head repair kit |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :---: | :---: |
| No. | Drive | Contents |  |  |  |
| BR3E-K | $3 / 8$ "sq. | Drive gear $\cdot$ Claw $\cdot$ Steel ball $\cdot$ <br> Coil spring $\cdot$ Lever <br> Pan head screw (small) $\cdot$ Lid $\times 1$, <br> Flat head screw $($ small $) \times 2$ |  |  |  |


-3/8"sq. LONG RATCHET HANDLE ..Pat.

-3/8"sq. FLEX RATCHET HANDLE ${ }_{\text {d.pat. }}$


－3／8＂sq．COMPACT SHORT RATCHET HANDLE о．pat．


| FLEX LONG RATCHET HANDLE |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． |  |  | B | T | L | Vg | $\oplus$ |  |
| BR3FL |  |  | 33 | 13.5 | 275 | 360 | 5 |  |
|  |  |  |  |  |  |  |  |  |
| 3／8＂sq．Ratchet head repair kit |  |  |  |  |  |  |  |  |
| No． | Drive | Contents |  |  |  |  |  |  |
| BR3E－K | 3／8＂sq． | Drive gear • Claw • Steel ball • Coil spring－Lever－ Pan head screw（small）• Lid $\times 1$ ， Flat head screw（small）$\times 2$ |  |  |  | $\sqrt{1}$ |  |  |


| COMPACT SHORT RATCHET HANDLE |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Feed |  | B 22 | T10 | L 125 | Vg | $\begin{array}{\|c\|} \hline \oplus \theta \\ \hline 5 \\ \hline \end{array}$ |  |
| BRC3E | $10^{\circ}$ |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline{ }^{\text {caution }} \cdot \mathrm{ENSURE} \text { THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, } \\ & \text { OTHERWISE IT MAY CAUSE DAMAGE OR IDLING. } \end{aligned}$ |  |  |  |  |  |  |  |  |
| 3／8＂sq．Ratchet head repair kit（for the compact type） |  |  |  |  |  |  |  |  |
| No． | Drive |  | Cont |  |  |  |  | 为 |
| BRC3－K | 3／8＂sq．D <br> C <br> P <br> P <br> F | $\begin{array}{\|l} \hline \text { Drive } \\ \text { Coil } \\ \text { Pan } \\ \hline \end{array}$ Flat | $\begin{aligned} & \text { ear • Cl } \\ & \text { oring. } \\ & \text { ad screv } \\ & \text { ead sc } \end{aligned}$ | el ball • <br> －Lid $\times 1$ ， nall）$\times 2$ |  |  |  | ${ }^{8}$ |

COMPACT SHORT RATCHET HANDLE

|  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Feed | B | T | L | $\boldsymbol{\nabla g}$ | $\in 日$ |  |
| BRC3S | $10^{\circ}$ | 22 | 10 | 80 | 90 | 5 |  |

$\rrbracket^{\text {caution }} \cdot$ ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY，


| COMPACT FLEX SHORT RATCHET HANDLE |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Feed |  | B | T | L | Vg | ¢ |  |
| BRC3F | $10^{\circ}$ |  | 22 | 10 | 125 | 140 | 5 |  |
| $\begin{aligned} & \text { d } \rrbracket^{\text {cAUTION } \cdot \text { IN FLEXIBLE PART, TOO MUCH FORCE MAKES MOVEMENT UNSTABLE. }} \text { • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, } \\ & \text { OTHERWISE IT MAY CAUSE DAMAGE OR IDLING. } \end{aligned}$ |  |  |  |  |  |  |  |  |
| 3／8＂sq．Ratchet head repair kit（for the compact type） |  |  |  |  |  |  |  |  |
| No． | Drive | Contents |  |  |  |  |  |  |
| BRC3－K | 3／8＂sq． | Drive gear • Claw • Steel ball Coil spring Leve • <br> Pan head screw（small）－Lid $\times 1$ ， Flat head screw（small）$\times 2$ |  |  |  |  | grar |  |

－3／8＂sq．COMPACT FLEX SHORT RATCHET HANDLE d．Pat．

COMPACT FLEX SHORT RATCHET HANDLE

| No． | Feed | B | T | $\mathbf{L}$ | $\boldsymbol{\nabla}$ g | $\in 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BRC3FS | $10^{\circ}$ | 22 | 10 | 80 | 90 | 5 |  |

## RATCHET HEAD REPAIR KIT

| No. | Drive |
| :--- | :--- |

3/8"sq.
Contents
Drive gear • Claw • Steel ball • Spring • Lever
Pan head screw (small) • Lid x1 Flat head screw (small) x2
-3/8"sq. Ratchet head repair kid (for no Union Mechanism type) (BR3A)

* See BR3E-K for Union Mechanism type (BR3E, BR3L, BR3F, BR3FL)
* See BRC3-K for the compact type type (BRC3E, BRC3S,

-3/8"sq. RATCHET HEAD REPAIR KIT (NO UNION MECHANISM TYPE)


| RATCHET HEAD REPAIR KIT |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :---: | :---: |
| No. | Drive | Contents |  |  |  |
| BRC3-K | $3 / 8$ "sq. | Drive gear • Claw • Steel ball • Spring • Lever <br> Pan head screw (small) • Lid x1 <br> Flat head screw (small) x2 |  |  |  |

-3/8"sq. RATCHET HEAD REPAIR KIT (COMPACT TYPE)


| RATCHET HANDLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Feed | B | L | Vg | ¢ $¢$ |
| BRG3 | Grip Type | $5^{\circ}$ | 55 | 27.5 | 170 | 10 |

-3/8"sq. RATCHET HANDLE (GRIP TYPE)



- 60teeth gear with small $6^{\circ}$ increments.
*Replacement parts are available. Check with your dealer for details.
$\lambda^{\text {caution }}$ • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY,
$\rfloor^{\text {CAUTION }}$ OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.
-3/8"sq. RATCHET ADAPTOR
*Replacement parts are available. Check with your dealer for details.
$\overbrace{}^{\text {caution }}$
MA OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.


| SPINNER HANDLE |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | D | $\varnothing$ | L | Vg | ¢ |  |
| BS3E |  | 18 | 21 | 300 | 410 | 5 |  |
| LONG SPINNER HANDLE |  |  |  |  |  |  |  |
| No. | D |  | $\varnothing$ | L | Vg | © $\oplus$ |  |
| BS3L | 18 |  | 21 | 400 | 510 | 5 |  |
| 3/8"sq. Spinner handle head repair kit Pat.p. |  |  |  |  |  |  |  |
| No. | Inserition angle |  | tent |  |  |  |  |
| BS3E-K | 3/8"sq. |  | $\begin{aligned} & \text { in } \cdot P \\ & w \times 1 \end{aligned}$ |  |  |  |  |

## -3/8"sq. SPINNER HANDLE pat.p. -3/8"sq. LONG SPINNER HANDLE рат.p



$!^{\text {caution } ~-~ H O L D ~ G R I P ~ I N ~ T H E ~ C E N T E R, ~ O T H E R W I S E ~ H A N D ~ M A Y ~ B E ~ C A U G H T ~ I N ~ T H E ~ D R I V I N G ~ S E C T I O N . ~}$ DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO APPIY EXCESSIVE LOAD.
-3/8"sq. T-SHAPED WRENCH


| HANDLE |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | H | W | $\ell$ | L | Vg | $\models 9$ |  |
| ABX101 | 135 | 28 | - | 105 | 250 | 10 |  |
| AB-53 | - | - | 100 | 115 | 90 | 1 |  |

- This can be used for sockets and hexagon wrenches due to the $3 / 8$ "sq drive.


$|$| FLEX T SHAPE WRENCH (LONG) |  |  |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| No. | EDGE | $\ell$ | L | $\boldsymbol{\nabla g}$ | $\in q$ |  |
| THF20-700 | $3 / 8 "$ "sq. | 180 | 705 | 700 | 10 |  |

caution• DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART.
$!{ }^{\text {cuuron }}$ - INSERT THE DRIVE SQUARE DEEPLY TO THE END.
$\lambda^{\text {CAUTION. INSERT THE DRIVE SQUARE }}$ DEEPLY TO THE END.


4



## -3/8"sq. SLIDE HEAD HANDLE



| No. | D | Handle (ø) | L | $\boldsymbol{\nabla} g$ | $\epsilon 9$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BHM3 | 17 | 9 | 200 | 120 | 5 |  |

- For faster operation from quick turning $\longrightarrow$ to fastening
- A groove on the handle prevents head turning


| SPEEDER HANDLE |
| :--- |
| No. |
| BSD20 |


-3/8"sq. SCREWDRIVER TYPE HANDLE
DRIVER TYPE HANDLE

| No. | d | L | $\ell$ | $\mathbf{\nabla g}$ | $\oplus 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BD20 | 8 | 150 | 63 | 70 | 5 |  |


-3/8"sq. QUICK SPINNER © ग.pat.


| QUICK SPINNER |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D | d | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ $¢$ |
| BE3-Q | 36 | 17 | 31 | 10 | 40 | 10 |

- Specially for quick turning for effective use with Ratchet handle or Extension bar.
- Grip has angle $\left(90^{\circ}\right)$ indication by groove with $30^{\circ}$ indication in surface.
- Grip is made of resin for light weight.
$\wedge^{\text {canton }}$. DO NOT USE MULTIPLE EXTENSIONS.
*Quick Spinner is the registered trademark of the Kyoto Tool Co., LTD


| EXTENSION BAR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D 1 | $\mathrm{D}_{2}$ | L | Vg | ¢ $¢$ |
| BE3-030 | 13 | 17 | 30 | 30 | 5 |
| -050 | 13 | 17 | 50 | 50 | 5 |
| -075 | 12 | 17 | 75 | 75 | 5 |
| -100 | 12 | 17 | 100 | 95 | 5 |
| -150 | 12 | 17 | 150 | 140 | 5 |
| -200 | 12 | 17 | 200 | 190 | 5 |
| -270 | 12 | 17 | 270 | 250 | 5 |
| -600 | 13 | 17 | 600 | 530 | 1 |
| -1000 | 13 | 17 | 990 | 700 | 1 |

$\prod^{\text {CAUTION }} \cdot$ DO NOT USE MULTIPLE EXTENSIONS.

-3/8"sq. EXTENSION BAR


BE3-075

| WOBBLE EXIENSION BAR |
| :--- |
| No. $\mathbf{D}_{1}$ $\mathbf{D}_{2}$ $\mathbf{L}$ $\mathbf{\nabla g}$ $\epsilon$  <br> BE3-030JW 13 17 30 30 5  <br> -050JW 13 17 50 50 5  <br> -075JW 12 17 75 75 5  <br> -100JW 12 17 100 95 5  <br> -150JW 12 17 150 140 5  <br> -200JW 12 17 200 190 5  <br> -270JW 12 17 270 250 5  <br> -600JW 13 17 600 530 1  <br> -1000JW 13 17 990 700 1  |

ACAUTION • DO NOT PUT PRESS TOO HARD, AS ITS STRUCTURE HAS LESS WEIGH FOWERIT. RESISTANCE THAN THE NORMAL EXTENSION BAR.

- DO NOT USE MULTIPLE EXTENSIONS.
-3/8"sq. WOBBLE EXTENSION BAR


BE3-075JW


| UNIVERSAL JoInt | -3/8"sq. UNIVERSAL JOINT |
| :---: | :---: |


| No. | D | L | $\boldsymbol{\nabla}$ g | $\epsilon ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| BJ3 | 18 | 46 | 50 | 5 |  |

$\bigwedge^{\text {caution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART.


| FLEX BALL JOINT |
| :--- |
| No. |
| BJF20 |
| - 12 p ( ball joint system for smooth 44\& turning (Fig.-1) |

-3/8"sq. FLEX BALL JOINT

- 12pt. ball joint system for smooth 44\& turning (Fig.-1)
$\bigwedge^{\text {caution }}$ • DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART.


| No. | sq. |  | D | L | $\boldsymbol{\nabla}$ | $\notin$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Internal | External |  |  |  |  |
| BA32 | $3 / 8^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | 17 | 25 | 20 | 5 |  |
| BA34 | $3 / 8^{\prime \prime}$ | $1 / 2^{\prime \prime}$ | 17 | 29.5 | 38 | 5 |  |

$\prod^{\text {caution } ~-~ F O R ~ M A X I M U M ~ T O R Q U E ~ O F ~ T H E ~ A D A P T O R, ~ R E F E R ~ T O ~ T H E ~ S M A L L E R ~}$ \! CaUtion - SIZE. DO NOT APPLY EXCESSIVE POWER.

-3/8"sq. INTERNAL DRIVE ADAPTOR

-QUICK SPINNING ADAPTOR • SET d.pat.

-3/8"sq. SOCKET HOLDER • CLIP SET d.pat.


| QUICK SPINNING ADAPTOR |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | sq. |  | D | L | $\boldsymbol{\ell}$ | $\boldsymbol{\nabla g}$ | $\oplus$ |  |
|  | Internal | External |  |  |  |  |  |  |
| BAE23 | $1 / 4^{\prime \prime}$ | $3 / 8^{\prime \prime}$ | 28 | 13 | 2.5 | 20 | 10 |  |
| BAE34 | $3 / 8^{\prime \prime}$ | $1 / 2^{\prime \prime}$ | 37 | 17 | 3 | 30 | 10 |  |

- This product is different from the socket adapter as it can be rotated quickly as it is, same place, compared with the socket adapter.(See the left figure.)
- It is easy to hold and to remove the socket because of the magnet force

The grip shape prevents slipping and makes it easy to rotate.

| QUICK SPINNING ADAPTOR • SET |  |  |
| :--- | :--- | :--- |
| No. BAE234 | $\boldsymbol{\nabla g} 50$ | $\bigoplus 1$ |
| Quick Spinning Adaptor | BAE23, 34 |  |


| SOCKET HOLDER. CLIP SET (5pcs.) |  |
| :--- | :---: |
| No. |  |
| No. of clips |  |
| EHB305 |  |

- Change of holder shape easier insertion/removal of socket and increased holding Different colors for different sizes
$\rfloor^{\text {cAUTION }} \cdot$ REVERSING HOLDER MAY ALLOW SOCKETS TO GET DISLODGED.

| No. EHB35 | $\nabla$ g 25 | E 10 |
| :--- | :--- | :--- |
| Clip | 5 pcs. |  |

Clp Spos.

- Spare clip for EHB305, 310 and EHB315
- Can be used for EHB205-215 and 405-410


## -ALUMINUM SOCKET HOLDER

A 0000000000


| ALUMINUM SOCKET HOLDER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | sq. | No. of clips | H | A | L | Vg | $\oplus$ |  |
| EHBA310 | 9.5 | 10 | 20 | 28.5 | 305 | 180 | 1 |  |

- Clip is a ball-lock type that prevents the socket from suddenly falling out.
- Rail color differs by the square, allowing the easy identification of socket
- Since the rail size is uniform, sockets with various squares can be stored by interchanging the clip.
$\bigwedge^{\text {caution }}$. Socket may fall off if the socket holder is turned upside down. - It cannot be mounted on a surface that's perpendicular to the ground



## Supply parts

| No. | Product Name |  |
| :--- | :---: | :---: |
| EHBAC-3 | 3/8"sq. Clip Set [10pcs.] |  |
| EHBASC | Side Cover [2pcs. Set] |  |

* Clip can be commonly used for EHBA310, EHBA210 and EHBA410.
-1/2"sq. SOCKET WRENCH SET DIGITAL RATCHET MODEL


| SOCKET WRENCH SET |  |
| :---: | :---: |
| No. TB406WG1 | Vkg 1.4 ¢ 1 |
| Digital Ratchet | GEK085-R4-L |
| Socket (12pt.) | B4-10W, 12W, 14W, 17W, 19W |
| Socket Holder (5pcs.) | EHB405 | (12pt.).

01/2"sq. SOCKET WRENCH SET (14pcs.)


TB410
01/2"sq. SOCKET WRENCH SET (13pcs.)


| SOCKET WRENCH SET (14pcs.) |  |
| :---: | :---: |
| No. TB410 | Vkg $3.4 \quad \oplus 1$ |
| Socket (6pt.) | B4-08, 10, 12, 13, 14, 17, 19, 21, 22, 24 |
| No. TB410X | Vkg $3.5 \quad \oplus 1$ |
| Socket (6pt.) | B4-08, 10, 12 |
| Socket (12pt.) | B4-13W, 14W, 17W, 19W, 21W, 22W, 24W |
| Common ltems |  |
| Ratchet Handle | BR4E |
| Extension Bar 75 | BE4-075 |
| 150 | BE4-150 |
| Universal Joint | BJ4 |
| Socket Holder (5pcs.) | EHB405 |
| Metal Case | EKB-2 L450xW185×H60mm |



| SOCKET WRENCH SET (19pcs. | mm |
| :---: | :---: |
| No. TB413 | Fkg 4.9 ¢ 1 |
| Socket (6pt.) | B4-08, 10, 11, 12, 13, 14, 17, 19, 21, 22, 24, 26, 27 |
| No. TB413X | Fkg 4.9 ¢ 1 |
| Socket (6pt.) | B4-08, 10, 11, 12 |
| Socket (12pt.) | B4-13W, 14W, 17W, 19W, 21W, 22W, 24W, 26W, 27W |
| Common Items |  |
| Ratchet Handle | BR4E |
| Spinner Handle | BS4E |
| Extension Bar 75 | BE4-075 |
| 150 | BE4-150 |
| Wobble Extension Bar | BE4-100JW |
| Universal Joint | BJ4 |
| Socket Holder (5pcs.) | EHB405 |
| Metal Case | EKB-2 L450×W185×H60mm |
| - with Plastic Tray (L445×W185×H52mm) Powerailu |  |

-1/2"sq. SOCKET WRENCH SET (19pcs.)

-1/2"sq. SOCKET WRENCH SET (19pcs.)

making the storage location clear in a glance.

- It is a Japan Machine Tool Standard Type 415-ISO equivalent product (set contents may somewhat differ in consideration of the frequency of use, etc.).
© The case is listed on P. 344 .

| SOCKET WRENCH SET (21 | mm $\cdot$ in |
| :---: | :---: |
| No. TB415X | Fkg 5.4 ¢日 1 |
| Socket (6pt.) | B4-08, 10, 11, 12 |
| Socket (12pt.) | B4-13W, 14W, 17W, 19W, 21W, 22W, 24W, 26W, 27W, 30W, 32W |
| No. TB415BX | Fkg 5.4 ¢⿴\zh11 |
| Socket (6pt.) in | B4-7/16 |
| Socket (12pt.) in | $\mathrm{B} 4-1 / 2 \mathrm{~W}, 9 / 16 \mathrm{~W}, 19 / 32 \mathrm{~W}, 5 / 8 \mathrm{~W}, 11 / 16 \mathrm{~W}, 3 / 4 \mathrm{~W}, 25 / 32 \mathrm{~W}, 13 / 16 \mathrm{~W}$, $7 / 8 \mathrm{~W}, 15 / 16 \mathrm{~W}, 1 \mathrm{Wv} 1-1 / 16 \mathrm{~W}, 1-1 / 8 \mathrm{~W}, 1-1 / 4 \mathrm{~W}$ |
| Common ltems |  |
| Ratchet Handle | BR4E |
| Spinner Handle | BS4E |
| Extension Bar 75 | BE4-075 |
| 150 | BE4-150 |
| Wobble Extension Bar | BE4-100JW |
| Universal Joint | BJ4 |
| Socket Holder (5pcs.) | EHB405 |
| Metal Case | EKB-2 L450×W185×H60mm |
| - with Plastic Tray (L445×W185×H52mm) Powerilicmer |  |

-1/2"sq. SOCKET WRENCH SET (21pcs.)


TB415X

| SOCKET WRENCH SET (26pcs.) | mm |  |
| :--- | :--- | :--- |
| No. TB420X | Fkg 5.8 | B4-08, 10, 11, 12 |
| Socket (6pt.) | B4-13W, 14W, 15W, 16W, 17W, 18W, 19W, 21W, |  |
| Socket (12pt.) | 22W, 23W, 24W, 26W, 27W, 29W, 30W, 32W |  |
|  | BR4E |  |
| Ratchet Handle | BS4E |  |
| Spinner Handle | BE4-075 |  |
| Extension Bar | BE4-150 |  |
|  | BE4-100JW |  |
| Wobble Extension Bar | BJ4 |  |
| Universal Joint | EHB405 |  |
| Socket Holder (5pcs.) | EKB-2 L450×W185×H60mm |  |
| Metal Case |  |  |
| with Plastic Tray (L445×W185×H52mm) |  |  |

-1/2"sq. SOCKET WRENCH SET (26pcs.)


- with Plastic Tray (L445×W185×H52mm)

POWER

| DEEP SOCKET WRENCH SET (15pcs.) |  | mm |
| :---: | :---: | :---: |
| No. TB4L10X | Vkg 5 ¢ 1 |  |
| Deep Socket (6pt.) | B4L-08, 10, 12 |  |
| Deep Socket (12pt.) | B4L-13W, 14W, 17W, 19W, 21W, 22W, 24W |  |
| Ratchet Handle | BR4E |  |
| Extension Bar 75 | BE4-075 |  |
| 150 | BE4-150 |  |
| Wobble Extension Bar | BE4-100JW |  |
| Universal Joint | BJ4 |  |
| Socket Holder (5pcs.) | EHB405 |  |
| Metal Case | EKB-2 L450×W185×H60mm |  |
| - with Plastic Tray (L445×W18 | $52 \mathrm{~mm})$ | OWERililis |

-1/2"sq. DEEP SOCKET WRENCH SET (15pcs.)



| SOCKET SET (5pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TB405 | Vg 500 | $\oplus \square_{1}$ |  |
| Socket (6pt.) | B4-10, 12, 14, 17, 19 |  |  |
| Socket Holder (5pcs.) | EHB405 |  |  |



-1/2"sq. SOCKET


POWERFIN

| SOCKET mm |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6pt. | 12pt. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | E日 |  |
| B4 -08 | B4 -08W | 8 | 12 | 22 | 5.5 | 28.5 | 12.5 | 29 | 5 |  |
| -09 | -09W | 9 | 13.5 | 22 | 5.5 | 28.5 | 12.5 | 30 | 5 |  |
| -10 | -10W | 10 | 14.5 | 22 | 5.5 | 28.5 | 12.5 | 38 | 5 |  |
| -11 | -11W | 11 | 16 | 22 | 6 | 29 | 13 | 41 | 5 |  |
| -12 | -12W | 12 | 17 | 22 | 7.5 | 30.5 | 14.5 | 44 | 5 |  |
| -13 | -13W | 13 | 18.5 | 22 | 7.5 | 30.5 | 14.5 | 45 | 5 |  |
| -14 | -14W | 14 | 20 | 22 | 8.5 | 31.5 | 15.5 | 49 | 5 |  |
| -15 | -15W | 15 | 21 | 22 | 8.5 | 31.5 | 15.5 | 50 | 5 |  |
| -16 | -16W | 16 | 22.5 | 22 | 9 | 33 | 17 | 55 | 5 |  |
| -17 | -17W | 17 | 24 | 22 | 10 | 34 | 18 | 61 | 5 |  |
| -18 | -18W | 18 | 25 | 23 | 10 | 34 | 18 | 69 | 5 |  |
| -19 | -19W | 19 | 26 | 24 | 10.5 | 34.5 | 18.5 | 75 | 5 |  |
| -20 | -20W | 20 | 27.5 | 25 | 11 | 35 | 19 | 83 | 5 |  |
| -21 | -21W | 21 | 28.5 | 26 | 11.5 | 35.5 | 19.5 | 91 | 5 |  |
| -22 | -22W | 22 | 30 | 27 | 11.5 | 35.5 | 19.5 | 104 | 5 |  |
| -23 | -23W | 23 | 31 | 27.5 | 12 | 36 | 20 | 108 | 5 |  |
| -24 | -24W | 24 | 32.5 | 28.5 | 12 | 36 | 20 | 117 | 5 |  |
| -25 | -25W | 25 | 34 | 30.5 | 13 | 37 | 21 | 140 | 5 |  |
| -26 | -26W | 26 | 35 | 31.5 | 14 | 38 | 22 | 149 | 5 |  |
| -27 | -27W | 27 | 36.5 | 33 | 15 | 39 | 23 | 171 | 5 |  |
| -28 | -28W | 28 | 38 | 34.5 | 16 | 40 | 24 | 190 | 5 |  |
| -29 | -29W | 29 | 39 | 35.5 | 17 | 41 | 25 | 206 | 5 |  |
| -30 | -30W | 30 | 40 | 36 | 17 | 42 | 26 | 214 | 5 |  |
| -31 | -31W | 31 | 42 | 37.5 | 18 | 43 | 27 | 248 | 5 |  |
| -32 | -32W | 32 | 43 | 38.5 | 18 | 43 | 27 | 256 | 5 |  |
| -33 | -33W | 33 | 44 | 40 | 19 | 44 | 28 | 278 | 5 |  |
| -34 | -34W | 34 | 45 | 41 | 19 | 44 | 28 | 286 | 5 |  |
| -35 | -35W | 35 | 46 | 41.5 | 19 | 44 | 28 | 297 | 5 |  |
| -36 | -36W | 36 | 47 | 42.5 | 19 | 44 | 28 | 305 | 5 |  |



| SOCKET |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 pt . | 12pt. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| B4-3/8 | B4-3/8 W | 9.5 | 14.5 | 22 | 5.5 | 28.5 | 12.5 | 38 | 5 |  |
| -7/16 | $-7 / 16 \quad$ W | 11.1 | 16 | 22 | 6 | 29 | 13 | 41 | 5 |  |
| -1/2 | $-1 / 2 \quad$ W | 12.7 | 18.5 | 22 | 7.5 | 30.5 | 14.5 | 46 | 5 |  |
| -17/32 | $-17 / 32 \quad$ W | 13.4 | 20 | 22 | 8.5 | 31.5 | 15.5 | 50 | 5 |  |
| -9/16 | -9/16 W | 14.2 | 20 | 22 | 8.5 | 31.5 | 15.5 | 49 | 5 |  |
| - $19 / 32$ | -1932 W | 15.0 | 21 | 22 | 8.5 | 31.5 | 15.5 | 50 | 5 |  |
| -5/8 | -5/8 W | 15.8 | 22.5 | 22 | 9 | 33 | 17 | 56 | 5 |  |
| -21/32 | $-21 / 32 \quad$ W | 16.6 | 24 | 22 | 10 | 34 | 18 | 61 | 5 |  |
| -11/16 | -11/16 W | 17.4 | 24 | 22 | 10 | 34 | 18 | 62 | 5 |  |
| -3/4 | -3/4 W | 19.0 | 26 | 24 | 10.5 | 34.5 | 18.5 | 75 | 5 |  |
| -25/32 | - $25 / 32 \quad$ W | 19.8 | 27.5 | 25 | 11 | 35 | 19 | 86 | 5 |  |
| -13/16 | $-13 / 16 \quad$ W | 20.6 | 28.5 | 26.5 | 11.5 | 35.5 | 19.5 | 94 | 5 |  |
| -7/8 | -7/8 W | 22.2 | 30 | 27.5 | 11.5 | 35.5 | 19.5 | 107 | 5 |  |
| -15/16 | -15/16 W | 23.8 | 32.5 | 30 | 12 | 36 | 20 | 131 | 5 |  |
| - $31 / 32$ | -31/32 W | 24.6 | 34 | 30.5 | 13 | 37 | 21 | 139 | 5 |  |
| -1 | -1 W | 25.4 | 35 | 31.5 | 14 | 38 | 22 | 152 | 5 |  |
| -1-1/16 | $-1-1 / 16$ W | 26.9 | 36.5 | 33 | 15 | 39 | 23 | 171 | 5 |  |
| -1-1/8 | -1-1/8 W | 28.5 | 39 | 35.5 | 17 | 41 | 25 | 204 | 5 |  |
| -1-3/16 | $-1-3 / 16 \mathrm{~W}$ | 30.1 | 40 | 36 | 17 | 42 | 26 | 214 | 5 |  |
| -1-1/4 | $-1-1 / 4 \mathrm{~W}$ | 31.7 | 43 | 38.5 | 18 | 43 | 27 | 262 | 5 |  |
| -1-5/16 | $-1-5 / 16 \mathrm{~W}$ | 33.3 | 44 | 40 | 19 | 44 | 28 | 282 | 5 |  |
| -1-3/8 | $-1-3 / 8 \mathrm{~W}$ | 34.9 | 46 | 41.5 | 19 | 44 | 28 | 297 | 5 |  |

POWERTI.

| DEEP SOCKET SET (5pcs.) • (10pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TB4L05 | Vg 820 | $\oplus 1$ |  |
| Deep Socket (6pt.) | B4L-10, | , 17, 1 |  |
| Socket Holder (5pcs.) | EHB405 |  |  |
|  |  |  | POwerifl |
| No. TB4L10E | Vg 1.8 | ¢ 1 |  |
| Deep Socket (6pt.) | B4L-08, 10, 12, 13, 14, 17, 19, 21, 22, 24 |  |  |
| Socket Holder (10pcs.) | EHB410 |  |  |

TB4L05
TB4L10E

-1/2"sq. DEEP SOCKET

## TWIST SOCKet SET (5pcs.)

## No. TB4TW05

Twist Socket
Socket Holder (5
Socket Holder (5pcs.) $\qquad$
Vg 930 臿 1

- It is a tool for loosening bolts, stud bolts, etc. that are rounded from the edge loss.
- Twisted teeth bite into damaged bolt •nut, allowing the easy removal.
* Removed bolt.nut cannot be reused
* Removed bol nut cat reused.
* Size to be used may differ depending on the damage condition of the bolt•nut. Please confirm the size selection with the actual article.
$A^{\text {caution }}$ -Do not use power tools (pneumatic/ electric impact wrench, etc.).
-1/2"sq. TWIST SOCKET SET (5pcs.) $\square$

-1/2"sq. TWIST SOCKET

| TWIST SOCKET |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\mathbf{D}_{1}$ | $\mathbf{D}_{\mathbf{2}}$ | H | L | $\mathbf{V}$ g | $\oplus$ |  |
| B4TW-17 | 17 | 25.8 | 30 | 16 | 42 | 135 | 5 |  |
| B4TW-19 | 19 | 28.4 | 30 | 16 | 42 | 140 | 5 |  |
| B4TW-21 | 21 | 31 | 30 | 17 | 42 | 150 | 5 |  |
| B4TW-22 | 22 | 32 | 30 | 17 | 42 | 155 | 5 |  |
| B4TW-24 | 24 | 35 | 30 | 18 | 42 | 175 | 5 |  |



OSOCKET WRENCH FOR ELBOW CONNECTOR


## SOCKET WRENCH FOR ELBOW CONNECTOR

 No.(1) ABX6-12

1. $\mathrm{ABX6}$
c) $A B X 6-14$
c) $\mathrm{ABX} 6-17$
c. $\mathrm{ABX6}$-19
c. $\mathrm{ABX6}-22$

Usage • Tightening tool for one-touch elbow connector that's used for trucks of 4t or more

- Width across flats 34 mm is for the tightening and loosening of connector for check valve that's used for Isuzu trucks.
- It can also be used to tighten and loosen elbow connectors (L-shape piping joint) used for general maintenance machinery.
-1/2"sq. RATCHET HANDLE ס.pat.

-1/2"sq. LONG RATCHET HANDLE ${ }_{\text {d.pat. }}$

-1/2"sq. FLEX RATCHET HANDLE ${ }_{\text {d.pat. }}$

-1/2"sq. FLEX LONG RATCHET HANDLE d.Pat.

-1/2"sq. SPINNER HANDLE ${ }_{\text {pat.p. }}$ -1/2"sq. LONG SPINNER HANDLE pat.p.


[^0]| RATCHET HANDLE |
| :--- |
| No. |
| BR4E |

! ${ }^{\text {caution } \cdot \text { ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, }}$ OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.

daution • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY,
OTHERWISE IT MAY CAUSE DAMAGE OR IDLING
DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO APPLY EXCESSIVE LOAD.


| FLEX RATCHET HANDLE |
| :--- |
| No. |
| BR4F |

$\wedge^{\text {caution }} \cdot$ IN FLEXIBLE PART, TOO MUCH FORCE MAKES MOVEMENT UNSTABLE.

- ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.


| SPINNER HANDLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D | Grip (ø) | L | $\nabla \mathrm{g}$ | \& $\oplus$ |  |
| BS4E | 22 | 21 | 400 | 700 | 5 |  |
| LONG SPINNER HANDLE |  |  |  |  |  |  |
| No. | D | Grip (ø) | L | $\nabla \mathrm{g}$ | ¢ $\oplus$ |  |
| BS4L | 22 | 21 | 600 | 1,100 | 1 |  |



## EXTRA－LONG SPINNER HANDLE

－1／2＂sq．EXTRA－LONG SPINNER HANDLE pat．p．

| No． | D | L | A | Vkg | $\oplus ⿴ 囗 十 ⺝$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BS4－780 | 20 | 787 | 10 | 1.5 | 10 |  |

－Is optimal for crank pulley bolts，and hub centre bolt operations，etc．，where heavy torque is necessary．
－The handle is hollow and light．The unit has a knurl grip to help prevent slippage．
$\bigwedge^{\text {CAUTION }}$－HOLD GRIP IN THE CENTER，OTHERWISE HAND MAY BE CAUGHT IN THE DRIVING SECTION． －DO NOT OVER TORQUE，AS THE WHOLE LENGTH IS LONG ENOUGH TO APPLY EXCESSIVE LOAD．


| SPEEDER HANDLE |
| :--- |
| No． |
| BSD30 |

－1／2＂sq．SPEEDER HANDLE


| SLIDE HEAD HANDLE |
| :--- |
| No． |
| BHM4 |
| －From quick turning |

－From quick turning to fastening\＆loosening faster
operation than using ratchet handle for some application．
－The head is unable to rotate as there is a groove placed into the handle．

－1／2＂sq．SLIDE HEAD HANDLE


DI回乐

| SPEEDINC CROSS WRENCH |
| :--- |
| No． |
| XH30 |

－For quick turning．



1／2＂sq．SPEEDING CROSS WRENCH


| L SHAPE OFFSET HANDLE |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No． | D | L | $\boldsymbol{\nabla} g$ | $\epsilon$ |  |
| BO30－280 | 16 | 280 | 500 | 2 |  |

－1／2＂sq．L－SHAPED HANDLE
$\left\lfloor^{\text {caution }} \cdot\right.$ DO NOT OVER TORQUE，AS THE WHOLE LENGTH IS LONG ENOUGH TO
APPLY EXCESSIVE LOAD．


－Specially for quick turning for effective use with Ratchet handle or Extension bar．Grip
has angle $\left(90^{\circ}\right)$ indication by groove with $30^{\circ}$ indication in surface．
－Grip is made of resin for light weight．
$\wedge^{\text {cantoon．DO NOT USE MULTIPLE EXTENSIONS．}}$



| EXTENSION BAR |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | L | Vg | $\oplus$ |  |
| BE4－ 050 | 17 | 22 | 50 | 90 | 5 |  |
| － 075 | 17 | 22 | 75 | 140 | 5 |  |
| － 100 | 17 | 22 | 100 | 170 | 5 |  |
| － 150 | 17 | 22 | 150 | 250 | 5 |  |
| － 200 | 17 | 22 | 200 | 330 | 5 |  |
| － 270 | 17 | 22 | 270 | 440 | 5 |  |
| － 600 | 17 | 22 | 600 | 1050 | 1 |  |
| －1000 | 17 | 22 | 1000 | 1800 | 1 |  |
| $\^{\text {caution }} \cdot$ DO NOT USE MULTIPLE EXTENSIONS． |  |  |  |  |  |  |

－1／2＂sq．WOBBLE EXTENSION BAR


BE4－075JW
WOBBLE EXTENSION BAR

| No． | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{L}$ | $\boldsymbol{\nabla}$ g | $\epsilon$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BE4－050JW | 17 | 22 | 50 | 90 | 5 |  |
| －075JW | 17 | 22 | 75 | 140 | 5 |  |
| －100JW | 17 | 22 | 100 | 170 | 5 |  |
| －150JW | 17 | 22 | 150 | 250 | 5 |  |
| －200JW | 17 | 22 | 200 | 330 | 5 |  |
| －270JW | 17 | 22 | 270 | 440 | 5 |  |

caution • COMPARED WITH ORDINARY EXTENSION BAR，IT ENDURES POWERAN．． LOWER LOAD FOR ITS MECHANISM．DO NOT TO APPLY EXCESSIVE POWER．
－DO NOT EXTEND WITH ANOTHER

## －1／2＂sq．UNIVERSAL JOINT



1／2＂sq．INTERNAL $\times 3 / 4$＂sq．EXTERNAL DRIVE ADAPTOR


！ CaUTION • FOR MAXIMUM TORQUE OF THE ADAPTOR，REFER TO THE SMALLER SIZE DO NOT APPLY EXCESSIVE POWER．


1／2＂sq．INTERNAL $\times 3 / 4$＂sq．EXTERNAL DRIVE ADAPTOR


＾caution • FOR MAXIMUM TORQUE OF THE ADAPTOR，REFER TO THE SMALLER SIZE DO NOT APPLY EXCESSIVE POWER．

SOCKET HOLDER.CLIP SET (5pcs.)

| No. | No. of clips | H | A | L | $\boldsymbol{\nabla g}$ | $\epsilon$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EHB405 | 5 | 26.5 | 25 | 215 | 120 | 10 |  |
| EHB410 | 10 | 26.5 | 25 | 365 | 150 | 10 |  |

- Change of holder shape enables easier insertion/removal of socket and increased holing strength compared with previous model. (Does not fall off so easily while carving) - The insertion angle has its own holder coloring setting.
$\bigwedge^{\text {cAUTION }} \cdot$ DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO APPLY EXCESSIVE LOAD.

| No. EHB45 | $\nabla$ g 30 | $\ominus 日 10$ |
| :--- | :--- | :--- |
| Clip | 5 pcs. |  |

- Spare clip for EHB405, 410.
- Can be used for EHB205-215 and 305-315.
-1/2"sq. SOCKET HOLDER • CLIP SET (5pcs.)



## ALUMINUM SOCKET HOLDER

| No. | sq. | No. of clips | H | A | L | $\boldsymbol{\nabla}$ g | $\oplus ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EHBA410 | 12.7 | 10 | 23 | 28.5 | 305 | 210 | 1 |  |

- Clip is a ball-lock type that prevents the socket from suddenly falling out.
- Rail color differs by the square, allowing the easy identification of socket.
- Since the rail size is uniform, sockets with various squares can be stored by interchanging the clip.
$4^{\text {caution }}$. Socket may fall off if the socket holder is turned upside down.
. - It cannot be mounted on a surface that's perpendicular to the ground
- Supply parts

| No. | Product Name |  |
| :--- | :---: | :---: |
| EHBAC-4 | $1 / 2 "$ sq. Clip Set [10pcs.] |  |
| EHBASC | Side Cover [2pcs. Set] |  |

## -ALUMINUM SOCKET HOLDER

A 10000000000



| STUD REMOVER |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Bolt Diameter |  | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
|  | Max. | Min. |  |  |  |  |
| BSR30 | $\varnothing 19$ | $ø 6$ | 56 | 400 | 1 |  |

- For use on stud bolts
*Replacement parts are available. Check with your dealer for details



> Insert the drive of atoll in the stud removerand turning. (The teeth of stud remover bitethe bolt)


Continue to turn the tool for fastening oloosening the stud bolt./rand the bolt.
-1/2"sq. STUD REMOVER


Insert stud remover in stud bolt.

| STUD BOLT REMOVER • SET(4pcs.) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. BSR354 |  | Fkg 1.1 ¢ 1 |  |  |  |  |  |
| Stud Bolt Remover |  | BSR35-6, 8, 10, 12 |  |  |  |  |  |
| Metal Case |  | L215×W82×H50mm |  |  |  |  |  |
| No. | D | L | S | Applicable Size | $\nabla \mathrm{g}$ | ¢ |  |
| BSR35-6 | 24 | 65 | 21 | M 6 | 150 | 1 |  |
| - 8 | 24 | 65 | 21 | M 8 | 150 | 1 |  |
| -10 | 28 | 75 | 21 | M10 | 220 | 1 |  |
| -12 | 28 | 75 | 21 | M12 | 220 | 1 |  |

! $^{\text {caution } \cdot \text { USE A SOCKET APPROPRIATE TO THE SIZE OF A BOLT OR NUT. }}$ - CHECK THE STUD BLOT FIRMLY CONNECTED WITH THE TOOL BEFORE APPLYING ANY POWER.
-1/2"sq. STUD BOLT REMOVER • SET (4pcs.)


Remeval \& installation of stud bolts
Removal \& installation of stud bo well).
Characteristics

- For fastening/loosening stud bolts. Usable either for fastening or loosening. Ratchet mechanism enables continuous operation. Do not use on stud bolts that expose less than 20 mm .

*The A is a wrench that is shaped like a hexagon.

| SOCKET WRENCH SET(10pcs.) |  |
| :--- | :--- |
| No.TB610A | $\nabla \mathrm{kg} \mathrm{9}$ |
| Socket (12pt.) | B40-22, 24, 27, 30, 32, 36, 41, 46 |
| Ratchet Handle | BR6A |
| Extension Bar 200 | BE40-200 |
| Metal Case | B4110-MA (W545×D185×H85) |
| The case is listed on P.344. |  |

-3/4"sq. SOCKET WRENCH SET (10pcs.)


| SOCKET WRENCH SET(15pcs.) |  |
| :--- | :--- |
| No.TB614A | Fkg 10.8 $\quad$ B 1 |
| Socket (12pt.) | B40-22, 24, 27, 30, 32, 35, 36, 38, 41, 46, 50 |
| Head | BH40 |
| Bar | BL40-500 |
| Extension Bar 130 | BE40-130 |
| Extension Bar 200 | BE40-200 |
| Metal Case | B4110-MA (W545×D185×H85) |

[^1]-3/4"sq. SOCKET WRENCH SET (15pcs.)

-3/4"sq. SOCKET WRENCH SET (14pcs.)


| SOCKEt WRENCH SET(14pcs.) |  |
| :---: | :---: |
| No.TB615A | Fkg 14.5 ¢ص 1 |
| Socket (12pt.) | B40-24, 27, 30, 32, 36, 41, 46, 50, 55 |
| Ratchet Handle | BR6A |
| Head | BH40 |
| Bar | BL40-500 |
| Extension Bar 200 | BE40-200 |
| Extension Bar 400 | BE40-400 |
| Metal Case | B4110-MA (W545×D185×H85) |

© The case is listed on P.344.
-3/4"sq. SOCKET WRENCH SET (19pcs.)


| SOCKET WRENCH SET(19pcs.) |  |
| :---: | :---: |
| No.TB619A | Vkg 14.1 ¢¢ 1 |
| Socket (12pt.) | $\begin{aligned} & \text { B40-22, 23, 24, 26, 27, 29, 30, 32, 35, 36, 38, 41,46, } \\ & 50,54,55 \end{aligned}$ |
| Ratchet Handle | BR6A |
| Extension Bar 130 | BE40-130 |
| Extension Bar 200 | BE40-200 |
| Metal Case | B4110-MA (W545×D185×H85) |

The case is listed on P. 344 .
-3/4"sq. SOCKET WRENCH SET (18pcs.)


| SOCKET WRENCH SEI(18pcs.) |  |
| :---: | :---: |
| No.TB618BA | Vkg 16.7 ¢ 1 |
| Socket (12pt.) | BB40-1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-3/4, 1-13/16, 1-7/8, 2 |
| Ratchet Handle | BR6A |
| Head | BH40 |
| Bar | BL40-500 |
| Extension Bar 200 | BE40-200 |
| Extension Bar 400 | BE40-400 |
| Metal Case | B4110-MA (W545×D185×H85) |

O The case is listed on P. 344.


| SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ $¢$ |  |
| B40-17 | 17 | 26 | 33 | 12 | 46 | 25 | 160 | 5 |  |
| -18 | 18 | 27 | 33 | 13 | 46 | 25 | 160 | 5 |  |
| -19 | 19 | 27.5 | 33 | 14 | 46 | 25 | 160 | 5 |  |
| -20 | 20 | 29.5 | 33 | 14 | 47 | 26 | 170 | 5 |  |
| -21 | 21 | 30 | 33 | 15 | 47 | 26 | 170 | 5 |  |
| -22 | 22 | 31 | 33 | 16 | 49 | 28 | 170 | 5 |  |
| -23 | 23 | 32.5 | 33 | 16 | 49 | 28 | 170 | 5 |  |
| -24 | 24 | 34 | 33 | 18 | 50 | 29 | 180 | 5 |  |
| -25 | 25 | 35 | 34 | 19 | 51 | 30 | 200 | 5 |  |
| -26 | 26 | 36.5 | 34 | 19 | 51 | 30 | 210 | 5 |  |
| -27 | 27 | 38 | 34 | 19 | 51 | 30 | 220 | 5 |  |
| -28 | 28 | 39 | 34 | 20 | 52 | 31 | 230 | 5 |  |
| -29 | 29 | 40 | 34 | 21 | 53 | 32 | 240 | 5 |  |
| -30 | 30 | 42 | 36 | 22 | 54 | 33 | 270 | 5 |  |
| -31 | 31 | 43 | 38 | 23 | 55 | 34 | 300 | 5 |  |
| -32 | 32 | 44 | 38 | 24 | 56 | 35 | 310 | 5 |  |
| -33 | 33 | 46 | 38 | 24 | 57 | 36 | 340 | 5 |  |
| -34 | 34 | 47 | 38 | 25 | 57 | 36 | 350 | 5 |  |
| -35 | 35 | 48 | 38 | 26 | 59 | 38 | 370 | 5 |  |
| -36 | 36 | 50 | 40 | 27 | 60 | 39 | 410 | 5 |  |
| -37 | 37 | 51 | 40 | 28 | 61 | 40 | 430 | 5 |  |
| -38 | 38 | 52 | 40 | 29 | 62 | 41 | 440 | 5 |  |
| -39 | 39 | 54 | 40 | 30 | 63 | 42 | 470 | 5 |  |
| -40 | 40 | 55 | 40 | 31 | 64 | 43 | 490 | 5 |  |
| -41 | 41 | 56 | 40 | 32 | 65 | 44 | 500 | 5 |  |
| -42 | 42 | 57.5 | 38 | 35 | 66 | 45 | 540 | 5 |  |
| -43 | 43 | 59 | 40 | 36 | 67 | 46 | 590 | 5 |  |
| -44 | 44 | 60 | 42 | 37 | 68 | 47 | 630 | 5 |  |
| -45 | 45 | 62 | 44 | 37 | 69 | 48 | 710 | 5 |  |
| -46 | 46 | 63 | 44 | 35 | 70 | 49 | 750 | 2 |  |
| -47 | 47 | 64 | 44 | 39 | 71 | 50 | 780 | 2 |  |
| -48 | 48 | 65.5 | 44.5 | 39 | 72 | 51 | 810 | 2 |  |
| -50 | 50 | 68 | 46 | 42 | 74 | 53 | 880 | 2 |  |
| -52 | 52 | 71 | 48 | 47 | 75 | 54 | 920 | 2 |  |
| -54 | 54 | 73 | 48 | 48 | 76 | 55 | 950 | 2 |  |
| -55 | 55 | 75 | 48 | 51 | 79 | 58 | 1,040 | 2 |  |
| -56 | 56 | 76 | 48 | 52 | 80 | 59 | 1,060 | 2 |  |
| -57 | 57 | 77 | 48 | 53 | 81 | 60 | 1,080 | 2 |  |
| -58 | 58 | 79 | 48 | 53 | 82 | 61 | 1,180 | 2 |  |
| -60 | 63 | 83.5 | 58 | 53 | 84 | 63 | 1,390 | 2 |  |
| -63 | 56 | 76 | 48 | 52 | 80 | 59 | 1,060 | 2 |  |
| -65 | 65 | 88 | 58 | 52 | 84 | 63 | 1,520 | 2 |  |
| -70 | 70 | 92 | 58 | 52 | 84 | 63 | 1,580 | 2 |  |
| -75 | 75 | 98.5 | 58 | 56 | 86 | 65 | 1,720 | 2 |  |
| -80 | 80 | 104.5 | 63 | 59 | 90 | 69 | 2,040 | 2 |  |
| -85 | 85 | 111 | 63 | 59 | 90 | 69 | 2,220 | 2 |  |

POWぽifis. (Except below B40-46)

| SOCKET in |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\overbrace{\text { ¢ }}$ |  |
| BB40-1-1/16 | 26.9 | 38 | 34 | 20 | 51 | 28 | 230 | 5 |  |
| -1-1/8 | 28.5 | 40 | 34 | 21 | 53 | 30 | 250 | 5 |  |
| -1-3/16 | 30.1 | 42 | 36 | 22 | 54 | 31 | 280 | 5 |  |
| -1-1/4 | 31.7 | 44 | 38 | 24 | 56 | 33 | 300 | 5 |  |
| -1-5/16 | 33.3 | 47 | 38 | 25 | 58 | 34 | 338 | 5 |  |
| -1-3/8 | 34.9 | 48 | 38 | 26 | 59 | 36 | 340 | 5 |  |
| -1-7/16 | 36.5 | 50 | 40 | 27 | 60 | 37 | 360 | 5 |  |
| -1-1/2 | 38.1 | 52 | 40 | 29 | 62 | 39 | 480 | 5 |  |
| -1-5/8 | 41.2 | 56 | 37 | 32 | 65 | 44 | 500 | 5 |  |
| -1-3/4 | 44.4 | 61 | 43 | 34 | 68 | 47 | 660 | 5 |  |
| -1-13/16 | 46.0 | 63 | 44 | 35 | 70 | 49 | 740 | 5 |  |
| $-1-7 / 8$ | 47.6 | 65 | 44 | 36 | 71 | 50 | 780 | 5 |  |
| -2 | 50.8 | 69 | 47 | 38 | 75 | 54 | 960 | 5 |  |

-3/4"sq. SOCKET


| DEEP SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| B45-17 | 17 | 26 | 33 | 18 | 90 | 69 | 280 | 5 |  |
| B45-18 | 18 | 27 | 33 | 19 | 90 | 69 | 290 | 5 |  |
| B45-19 | 19 | 27.5 | 33 | 20 | 90 | 69 | 300 | 5 |  |
| B45-20 | 20 | 29.5 | 33 | 21 | 90 | 69 | 330 | 5 |  |
| B45-21 | 21 | 30 | 33 | 22 | 90 | 69 | 330 | 5 |  |
| B45-22 | 22 | 31 | 33 | 23 | 90 | 69 | 310 | 5 |  |
| B45-23 | 23 | 32.5 | 33 | 24 | 90 | 69 | 330 | 5 |  |
| B45-24 | 24 | 34 | 33 | 25 | 90 | 69 | 360 | 5 |  |
| B45-25 | 25 | 35 | 34 | 26 | 90 | 69 | 390 | 5 |  |
| B45-26 | 26 | 36.5 | 34 | 27 | 90 | 69 | 410 | 5 |  |
| B45-27 | 27 | 38 | 34 | 28 | 90 | 69 | 410 | 5 |  |
| B45-28 | 28 | 39 | 34 | 29 | 90 | 69 | 430 | 5 |  |
| B45-29 | 29 | 40 | 34 | 30 | 90 | 69 | 440 | 5 |  |
| B45-30 | 30 | 42 | 36 | 31 | 90 | 69 | 470 | 5 |  |
| B45-31 | 31 | 43 | 38 | 32 | 90 | 69 | 510 | 5 |  |
| B45-32 | 32 | 44 | 38 | 33 | 90 | 69 | 520 | 5 |  |
| B45-33 | 33 | 46 | 38 | 34 | 90 | 69 | 550 | 5 |  |
| B45-34 | 34 | 47 | 38 | 35 | 90 | 69 | 570 | 5 |  |
| B45-35 | 35 | 48 | 38 | 36 | 90 | 69 | 580 | 5 |  |
| B45-36 | 36 | 50 | 40 | 37 | 90 | 69 | 630 | 5 |  |
| B45-38 | 38 | 52 | 40 | 39 | 90 | 69 | 650 | 5 |  |
| B45-40 | 40 | 55 | 40 | 41 | 90 | 69 | 690 | 5 |  |
| B45-41 | 41 | 56 | 40 | 42 | 90 | 69 | 700 | 5 |  |
| B45-42 | 42 | 57 | 40 | 43 | 90 | 69 | 700 | 5 |  |
| B45-44 | 44 | 59.5 | 40 | 45 | 90 | 69 | 790 | 5 |  |
| B45-46 | 46 | 63 | 44 | 47 | 90 | 69 | 910 | 2 |  |
| B45-48 | 48 | 64.5 | 44 | 49 | 90 | 69 | 960 | 2 |  |
| B45-50 | 50 | 68 | 46 | 51 | 90 | 69 | 1,010 | 2 |  |
| B45-52 | 52 | 69.5 | 46 | 64 | 100 | 79 | 1,090 | 2 |  |
| B45-53 | 53 | 71 | 48 | 64 | 100 | 79 | 1,180 | 2 |  |
| B45-54 | 54 | 73 | 48 | 63 | 100 | 79 | 1,270 | 2 |  |
| B45-55 | 55 | 75 | 48 | 63 | 100 | 79 | 1,350 | 2 |  |
| B45-56 | 56 | 76 | 48 | 63 | 100 | 79 | 1,340 | 2 |  |
| B45-57 | 57 | 77 | 48 | 62 | 100 | 79 | 1,360 | 2 |  |
| B45-58 | 58 | 79 | 48 | 62 | 100 | 79 | 1,450 | 2 |  |
| B45-60 | 60 | 81 | 48 | 61 | 100 | 79 | 1,460 | 2 |  |
| B45-63 | 63 | 83.5 | 53 | 60 | 100 | 79 | 1,540 | 2 |  |

-3/4"sq. DEEP SOCKET

-3/4"sq. RATCHET HANDLE (ROUND HEAD)


| RATCHET HANDLE (ROUND HEAD) |
| :--- |
| No. |
| Type |
| Noed |
| BRM40 |
| Round Head |
| Round head with compact design. |

- Round head with compact design.
- 60 teeth gear with small $6^{\circ}$ increments.
*Replacement parts are available. Check with your dealer for details.
$\bigwedge^{\text {caution } \cdot \text { ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, }}$ OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.

| SPINNER HANDLE |
| :--- |
| No. |
| BS40-500 |

Cauton - DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO
APPLY EXCESSIVE LOAD.

| HEAD |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D | L | Vg | E¢ |  |
| BH40 | 40 | 71 | 300 | 1 |  |
| $\rfloor^{\text {caution }} \cdot$ ALWAYS USE THE DESIGNATED BAR (No. BL40, BL40-500). |  |  |  |  |  |
| BAR |  |  |  |  |  |
| No. | L | $\sigma$ | Fkg | ¢ $\dagger$ |  |
| BL40-500 | 500 | 25 | 1.9 | 1 |  |

- The BL40 employees a succession system which makes it compact after use.
-3/4"sq. EXTRA-LONG SPINNER HANDLE pat.p.



## -3/4"sq. EXTENSION BAR


EXTRA-LONG SPINNER HANDLE

| No. | D | L | A | $\boldsymbol{\nabla k g}$ | $\in 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| BS6-1050 | 38 | 1000 | 10 | 3.7 | 1 |  |

- Is suitable for construction machinery and in large sized vehicles where high torque is necessary. AAUTION • HOLD GRIP IN THE CENTER, OTHERWISE HAND MAY BE CAUGHT IN THE DRIVING SECTION. - DO NOT OVER TORQUE, AS THE WHOLE LENGTH IS LONG ENOUGH TO APPLY EXCESSIVE LOAD.


## Drive set Pat.p.

| No. | Drive | Contents |  |
| :--- | :--- | :--- | :--- |
| BS6-K | 3/4"sq. | Drive head ASSY • Pin $\cdot$ Steel ball $\cdot$ Spring <br> Hexagon shaped hole fitted stop screw $\cdot$ Exchangeable jig <br> Exchangeable 6 hexagon shaped pole wrench $\times 1$ |  |


| EXTENSION BAR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | L | Vg | $\oplus$ |
| BE40-75 | 25 | 34 | 75 | 230 | 1 |
| - 130 | 25 | 34 | 130 | 500 | 1 |
| - 200 | 25 | 34 | 200 | 800 | 1 |
| - 400 | 25 | 34 | 400 | 1,600 | 1 |

$\rfloor^{\text {caution }} \cdot$ DO NO EXTEND WITH 2 OR MORE BARS.
-3/4"sq. INTERNAL $\times 1 / 2$ "sq. EXTERNAL DRIVE ADAPTOR


caution • FOR MAXIMUM TORQUE OF THE ADAPTOR, REFER TO THE SMALLER SIZE, DO NOT APPLY EXCESSIVE POWER. DO NOT APPLY EXCESSIVE PRESSURE.

| SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\notin$ |  |
| B50-27 | 27 | 40.5 | 44 | 19 | 60 | 31 | 370 | 1 |  |
| -30 | 30 | 44 | 44 | 21 | 65 | 36 | 410 | 1 |  |
| -32 | 32 | 46.5 | 44 | 23 | 65 | 36 | 430 | 1 |  |
| -33 | 33 | 48 | 48 | 23.5 | 65 | 36 | 510 | 1 |  |
| -35 | 35 | 50.5 | 48 | 24.5 | 65 | 36 | 530 | 1 |  |
| -36 | 36 | 54 | 52 | 30 | 72 | 43 | 720 | 1 |  |
| -38 | 38 | 54 | 52 | 32 | 74 | 45 | 710 | 1 |  |
| -40 | 40 | 56.5 | 52 | 33 | 76 | 47 | 750 | 1 |  |
| -41 | 41 | 60 | 52 | 34 | 77 | 48 | 850 | 1 |  |
| -42 | 42 | 59 | 56 | 35 | 79 | 50 | 810 | 1 |  |
| -46 | 46 | 66 | 52 | 40 | 82 | 53 | 980 | 1 |  |
| -50 | 50 | 71 | 56 | 43 | 86 | 57 | 1,200 | 1 |  |
| -54 | 54 | 74 | 56 | 46 | 90 | 61 | 1,270 | 1 |  |
| -55 | 55 | 78 | 56 | 48 | 92 | 63 | 1,430 | 1 |  |
| -58 | 58 | 79 | 56 | 50 | 94 | 65 | 1,370 | 1 |  |
| -60 | 60 | 84 | 56 | 52 | 98 | 69 | 1,660 | 1 |  |
| -63 | 63 | 88 | 60 | 56 | 103 | 74 | 1,980 | 1 |  |
| -65 | 65 | 91 | 60 | 58 | 103 | 74 | 2,170 | 1 |  |
| -67 | 67 | 94 | 60 | 59 | 108 | 79 | 2,360 | 1 |  |
| -68 | 68 | 94 | 60 | 59 | 109 | 80 | 2,410 | 1 |  |
| -70 | 70 | 97 | 60 | 60 | 111 | 82 | 2,480 | 1 |  |
| -71 | 71 | 97 | 65 | 63 | 113 | 84 | 2,500 | 1 |  |
| -75 | 75 | 104 | 65 | 66 | 118 | 89 | 3,050 | 1 |  |
| -77 | 77 | 107 | 65 | 67 | 120 | 91 | 3,260 | 1 |  |
| -80 | 80 | 110 | 65 | 70 | 124 | 95 | 3,450 | 1 |  |
| -83 | 83 | 110.5 | 65 | 72 | 127 | 98 | 3,610 | 1 |  |
| -85 | 85 | 117 | 70 | 75 | 130 | 101 | 4,170 | 1 |  |
| -90 | 90 | 119 | 75 | 78 | 130 | 101 | 4,370 | 1 |  |
| -95 | 95 | 125.5 | 85 | 76 | 130 | 101 | 4,800 | 1 |  |
| -100 | 100 | 131.5 | 85 | 75 | 130 | 101 | 5,200 | 1 |  |
| RATCHET HANDLE |  |  |  |  |  |  |  |  |  |
| No. | Type | Feed | B |  | T | L | $\nabla \mathrm{kg}$ | ¢ $¢$ |  |
| BR8A | Oval Head | $9^{\circ}$ |  |  | 36 | 720 | 4.3 | 1 |  |

-1"sq. SOCKET



RATCHET HANDLE
-1"sq. RATCHET HANDLE

- It is a standard 1"sq. oval type ratchet handle
- Gear with 40-tooth number is used. Feed angle is $9^{\circ}$
*Spare parts are configured. ©P. 472


■ Supply Parts (1"sq. Ratchet Head Repair Kit)

| No. | Square | Set Contents | $\mathbf{\nabla g}$ |  |
| :--- | :---: | :--- | :---: | :---: |
| BR8A-K | 1"sq. | Drive gear • Claw • Steel ball • Coil <br> spring $\cdot$ Lever $\cdot$ Pan head screw <br> (small) Lid x 1, Flat head screw <br> (small) $\times 2$ | 680 |  |


| L-SHAPED HANDLE |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. | D | L | $\boldsymbol{\nabla} \mathrm{kg}$ | $\in ⿴$ |  |
| BO50-600 | 28.5 | 600 | 3.0 | 1 |  |

$\wedge^{\text {caution } \cdot B E ~ C A R E F U L ~ A B O U T ~ O V E R ~ T O R Q U E, ~ A S ~ T H E ~ W H O L E ~ L E N G T H ~ L O N G ~}$
! $\int^{\text {caution }}$ ENOUGH TO APPLY EXCESSIVE LOAD.
-1"sq. L-SHAPED HANDLE


| EXTENSION BAR |
| :--- |
| No. $\mathbf{D}_{1}$ $\mathbf{D}_{2}$ $\mathbf{L}$ $\boldsymbol{\nabla} \mathrm{~kg}$ $\epsilon ⿴$  <br> BE50 - 200 32 44 200 1.3 1  <br> -400 32 44 400 2.6 1  |

- You can choose from both 200 mm length and 400 mm in accordance with your working
environment.
- Suitable for tightening for Hub nut of heavy trucks.
$\bigwedge^{\text {caution }}$. DO NOT EXTEND WITH 2 OR MORE BARS


BE50-200

## 2. CONVENTIONAL TOOLS

## IMPACT SOCKETS and ACCESSORIES

Socket for impact wrench and accessories

- Make sure that you read the User's manual carefully before use. - Use the impact wrench socket and the impact wrench accessories. - Make sure that all users are wearing safety glasses, ear plugs, hard hat, dust mask, and safety boots while working.
hat, dust mask, and safety boots while working
Do not allow impact wrench to make contact with the nut
- Do not connect more than one attachment
- Do not freely turn while sockets or attachments are attached
- Check the turning direction before use
- Be sure to remove the air hose before replacing the socket.

Check that the socket is correctly attached before commencing operation.
It is dangerous to touch the socket during operation.

- Never use a non-conforming pin or ring. If the correct pin and ring is not used, there is a danger the pin may pop out when the tool is being turned freely

21 C
Version
The pursuit of a user friendly socket for the 21st Century Version Tool impact wrench

- 3 different lengths can be set according to use. (Standard, Semi-deep, Deep)
- The semi-deep and the deep type are of a thin wall design that can be used in confined spaces.
- In addition to the usual engraved stamp, the large easy-to-read size indication is displayed.



Pins and rings are differentiated for use by


Standard Semi-deep (BP4)


Semi-deep (BP4M)


- Pins and rings are differentiated by color and easily matched.
- By employing a new type ring, pins and rings are easily attached. (Refer to P. 137 for attachment procedure)

A new pin pop-out prevention mechanism [AMBAC system] *(PAT.P.) is employed by the 21 st Century Version Tool.
*AMBAC:Anti-disconnect Mechanism By Availing of Centrifugal force


Half of the pin hole has been used as a wall, and by shortening the length of the pin, the centrifugal force that occurs when the tool is being turned constantly bears down upon the constantly bears
wall side, preventing the pin from popping out.
Refer to the diagram on the right.

By employing the AMBAC System, the pin is prevented from popping out when the impact wrench is being used.


| IMPACT SOCKET (SEMI-DEEP) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | D2 | H | L | $\ell$ | Vg | ${ }^{\oplus}$ |  |
| BP3M-07TP | 7 | 11.5 | 22 | 6 | 34 | 21 | 47 | 5 |  |
| BP3M-08TP | 8 | 13 | 22 | 7 | 34 | 21 | 50 | 5 |  |
| BP3M-09TP | 9 | 14 | 22 | 8 | 34 | 21 | 52 | 5 |  |
| BP3M-10TP | 10 | 15.5 | 22 | 8 | 34 | 21 | 52 | 5 |  |
| BP3M-12TP | 12 | 18 | 22 | 9 | 34 | 21 | 58 | 5 |  |
| BP3M-13TP | 13 | 19 | 22 | 9 | 34 | 21 | 58 | 5 |  |
| BP3M-14TP | 14 | 20.5 | 22 | 9 | 36 | 23 | 64 | 5 |  |
| BP3M-17TP | 17 | 25 | 22.5 | 12 | 36 | 23 | 80 | 5 |  |
| BP3M-19TP | 19 | 27.5 | 25 | 12 | 39 | 26 | 108 | 5 |  |
| BP3M-21TP | 21 | 29 | 25 | 14 | 39 | 26 | 108 | 5 |  |
| BP3M-22TP | 22 | 31 | 25 | 14 | 41 | 28 | 130 | 5 |  |

caution
Combine the black pin with black ring and silver pin with gray ring.

3/8"sq. IMPACT SOCKET
(SEMI-DEEP THIN WALL) WITH PIN • RING рat.


PR-1519 is for BP3M-07TP~17TP
PR-1822 is for BP3M-19TP~22TP.
-3/8"sq. IMPACT SOCKET (SEMI-DEEP)



| IMPACT SOCKET (SEMI-DEEP) |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ |  |
| BP3M-07T | 7 | 11.5 | 22 | 6 | 34 | 21 | 47 | 5 |  |
| -08T | 8 | 13 | 22 | 7 | 34 | 21 | 50 | 5 |  |
| -09T | 9 | 14 | 22 | 8 | 34 | 21 | 52 | 5 |  |
| -10T | 10 | 15.5 | 22 | 8 | 34 | 21 | 52 | 5 |  |
| -12T | 12 | 18 | 22 | 9 | 34 | 21 | 58 | 5 |  |
| -13T | 13 | 19 | 22 | 9 | 34 | 21 | 58 | 5 |  |
| -14T | 14 | 20.5 | 22 | 9 | 36 | 23 | 64 | 5 |  |
| -17T | 17 | 25 | 22.5 | 12 | 36 | 23 | 80 | 5 |  |
| -19T | 19 | 27.5 | 25 | 12 | 39 | 26 | 108 | 5 |  |
| -21T | 21 | 29 | 25 | 14 | 39 | 26 | 108 | 5 |  |
| -22T | 22 | 31 | 25 | 14 | 41 | 28 | 130 | 5 |  |
| * Pins and ring | sold | parate |  |  |  |  |  |  | WERafic |


| IMPACT SOCKET (SEMI-DEEP) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| BP3L-06TP | 6 | 10 | 22 | 5 | 55 | 42 | 57 | 5 |  |
| BP3L-07TP | 7 | 11.5 | 22 | 6 | 55 | 42 | 60 | 5 |  |
| BP3L-08TP | 8 | 13 | 22 | 7 | 55 | 42 | 68 | 5 |  |
| BP3L-09TP | 9 | 14 | 22 | 8 | 55 | 42 | 73 | 5 |  |
| BP3L-10TP | 10 | 15.5 | 22 | 10 | 55 | 42 | 73 | 5 |  |
| BP3L-11TP | 11 | 17 | 22 | 12 | 55 | 42 | 82 | 5 |  |
| BP3L-12TP | 12 | 18 | 22 | 12 | 55 | 42 | 88 | 5 |  |
| BP3L-13TP | 13 | 19 | 22 | 12 | 55 | 42 | 88 | 5 |  |
| BP3L-14TP | 14 | 20.5 | 22 | 12 | 80 | 67 | 137 | 5 |  |
| BP3L-17TP | 17 | 25 | 22.5 | 14 | 80 | 67 | 195 | 5 |  |
| BP3L-19TP | 19 | 27.5 | 25 | 14 | 80 | 67 | 233 | 5 |  |
| BP3L-21TP | 21 | 29 | 25 | 15 | 80 | 67 | 237 | 5 |  |
| BP3L-22TP | 22 | 31 | 25 | 16 | 80 | 67 | 281 | 5 |  |

CAUTION

- Combine the black pin with black ring and silver pin with gray ring.

3/8"sq. IMPACT SOCKET
(DEEP THIN WALL) WITH PIN • RING PAT.


-3/8"sq. IMPACT SOCKET (LONG)

-3/8"sq. IMPACT SOCKET LONG SOCKET
(THIN WALL) WITH PIN • RING pat.


PR-1519 is for BP3LL-10TP~17TP.
PR-1822 is for BP3LL-19TP.

| IMPACT SOCKET (LONG) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | $\mathrm{D}_{2}$ | d | H | L | $\ell$ | Vg | ¢ $¢$ |  |
| BP3LL-10TP | 10 | 15.5 | 22 | 9 | 10 | 130 | 115 | 170 | 5 |  |
| BP3LL-12TP | 12 | 18 | 22 | 9 | 12 | 130 | 115 | 220 | 5 |  |
| BP3LL-13TP | 13 | 19 | 22 | 11 | 12 | 130 | 115 | 225 | 5 |  |
| BP3LL-14TP | 14 | 20.5 | 22 | 12 | 12 | 130 | 115 | 250 | 5 |  |
| BP3LL-17TP | 17 | 25 | 22.5 | 14 | 14 | 130 | 115 | 360 | 5 |  |
| BP3LL-19TP | 19 | 27.5 | 25 | 16 | 14 | 130 | 115 | 440 | 5 |  |

! $^{\text {caution } \cdot \text { Combine the black pin with black ring and silver pin with gray ring. }}$
-3/8"sq. IMPACT EXTENSION BAR

| IMPACT EXTENSION BAR |
| :--- |
| No. $\mathbf{D}_{1}$ $\mathbf{D}_{2}$ $\mathbf{L}$ $\mathbf{V g}$ $\xi^{2}$  <br> BEP3-075 12.7 22 75 100 5  <br> -100 12.7 22 100 120 5  |

$\lambda^{\text {caution } \cdot} \cdot$ DO NOT USE MULTIPLE EXTENSIONS.

! - Match the black pin with the black ring, and the silver pin with the grey ring.

-3/8"sq. IMPACT ADAPTOR


| IMPACT ADAPTOR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | sq. |  | D | L | $\nabla \mathrm{g}$ | Eq |  |
|  | Internal | External |  |  |  |  |  |
| BAP34 | 3/8" | 1/2" | 22 | 42 | 70 | 5 |  |

$\rfloor^{\text {caution }}$
FOR MAXIMUM TORQUE OF THE ADAPTOR, REFER TO THE SMALLER SIZE. DO NOT APPLY EXCESSIVE POWER. DO NOT APPLY EXCESSIVE POWER OR IMPACT.

- Match the black pin with the black ring, and the silver pin with the grey ring.

$1 / 2$ "sq. IMPACT SOCKET (STANDARD) WITH PINS \& RINGS



| IMPACT SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | \& | $\nabla \mathrm{g}$ | ¢ |  |
| BP4-08P | 8 | 15 | 25 | 6 | 33 | 15 | 65 | 5 |  |
| -09P | 9 | 16 | 25 | 6.5 | 33.5 | 15.5 | 68 | 5 |  |
| -10P | 10 | 17 | 25 | 7 | 34 | 16 | 68 | 5 |  |
| -11P | 11 | 18.5 | 25 | 7.5 | 34.5 | 16.5 | 72 | 5 |  |
| -12P | 12 | 20 | 25 | 8 | 35 | 17 | 77 | 5 |  |
| -13P | 13 | 21.5 | 25 | 9 | 36 | 18 | 81 | 5 |  |
| -14P | 14 | 22.5 | 25 | 9.5 | 36.5 | 18.5 | 83 | 5 |  |
| -15P | 15 | 24 | 25 | 10.5 | 37.5 | 19.5 | 89 | 5 |  |
| -16P | 16 | 26 | 25 | 11 | 39 | 21 | 103 | 5 |  |
| -17P | 17 | 27.5 | 25 | 12 | 39 | 21 | 110 | 5 |  |
| -19P | 19 | 30 | 25 | 13 | 40 | 22 | 123 | 5 |  |
| -21P | 21 | 32.5 | 25 | 14 | 41 | 23 | 135 | 5 |  |
| -22P | 22 | 34 | 29 | 15 | 42 | 24 | 173 | 5 |  |
| -23P | 23 | 35 | 29 | 16 | 43 | 25 | 178 | 5 |  |
| -24P | 24 | 36.5 | 29 | 16.5 | 43.5 | 25.5 | 186 | 5 |  |
| -26P | 26 | 38 | 29 | 18 | 45 | 27 | 193 | 5 |  |
| -27P | 27 | 40 | 29 | 18.5 | 45 | 27 | 212 | 5 |  |
| -28P | 28 | 42 | 29 | 19 | 46 | 28 | 233 | 5 |  |
| -29P | 29 | 43 | 29 | 19.5 | 46.5 | 28.5 | 243 | 5 |  |
| -30P | 30 | 44 | 29 | 20 | 47 | 29 | 246 | 5 |  |
| -32P | 32 | 46 | 29 | 21 | 48 | 30 | 261 | 5 |  |

caution • Match the black pin with the black ring, and the silver pin with the grey ring.

| IMPACT SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| BP4-08 | 8 | 15 | 25 | 6 | 33 | 15 | 65 | 5 |  |
| -09 | 9 | 16 | 25 | 6.5 | 33.5 | 15.5 | 68 | 5 |  |
| -10 | 10 | 17 | 25 | 7 | 34 | 16 | 68 | 5 |  |
| -11 | 11 | 18.5 | 25 | 7.5 | 34.5 | 16.5 | 72 | 5 |  |
| -12 | 12 | 20 | 25 | 8 | 35 | 17 | 77 | 5 |  |
| -13 | 13 | 21.5 | 25 | 9 | 36 | 18 | 81 | 5 |  |
| -14 | 14 | 22.5 | 25 | 9.5 | 36.5 | 18.5 | 83 | 5 |  |
| -15 | 15 | 24 | 25 | 10.5 | 37.5 | 19.5 | 89 | 5 |  |
| -16 | 16 | 26 | 25 | 11 | 39 | 21 | 103 | 5 |  |
| -17 | 17 | 27.5 | 25 | 12 | 39 | 21 | 110 | 5 |  |
| -19 | 19 | 30 | 25 | 13 | 40 | 22 | 123 | 5 |  |
| -21 | 21 | 32.5 | 25 | 14 | 41 | 23 | 135 | 5 |  |
| -22 | 22 | 34 | 29 | 15 | 42 | 24 | 173 | 5 |  |
| -23 | 23 | 35 | 29 | 16 | 43 | 25 | 178 | 5 |  |
| -24 | 24 | 36.5 | 29 | 16.5 | 43.5 | 25.5 | 186 | 5 |  |
| -26 | 26 | 38 | 29 | 18 | 45 | 27 | 193 | 5 |  |
| -27 | 27 | 40 | 29 | 18.5 | 45 | 27 | 212 | 5 |  |
| -28 | 28 | 42 | 29 | 19 | 46 | 28 | 233 | 5 |  |
| -29 | 29 | 43 | 29 | 19.5 | 46.5 | 28.5 | 243 | 5 |  |
| -30 | 30 | 44 | 29 | 20 | 47 | 29 | 246 | 5 |  |
| -32 | 32 | 46 | 29 | 21 | 48 | 30 | 261 | 5 |  |

-1/2"sq. IMPACT SOCKET (STANDARD) pat.p.


Pins and rings are sold separately.
-1/2"sq. IMPACT SOCKET (SEMI-DEEP) pat.p. WITH PINS \& RINGS


R-1822 for BP4M-08TP~21TP PR-2026 for BP4M-22TP~36TP
$\wedge^{\text {awrow }} \cdot$ Match the black pin with the black ring, and the siver pin with the grey ring.

| IMPACT SOCKET (SEMI-DEEP) mm |  |  |  |  |  |  |  |  |  | 1/2"Sq. IMPACT SOCKET (SEMM- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |  |  |  |
| BP4M-08T | 8 | 13.5 | 25 | 16 | 52 | 34 | 77 | 5 |  |  |  |  |
| -09T | 9 | 14.5 | 25 | 16 | 52 | 34 | 81 | 5 |  |  |  |  |
| -10T | 10 | 15.5 | 25 | 20 | 52 | 34 | 79 | 5 |  |  |  |  |
| -11T | 11 | 17 | 25 | 20 | 52 | 34 | 86 | 5 |  |  |  |  |
| -12T | 12 | 18 | 25 | 20 | 52 | 34 | 89 | 5 |  |  |  |  |
| -13T | 13 | 19 | 25 | 20 | 52 | 34 | 90 | 5 |  |  |  |  |
| -14T | 14 | 20.5 | 25 | 20 | 52 | 34 | 96 | 5 |  |  |  |  |
| -15T | 15 | 22 | 25 | 20 | 52 | 34 | 102 | 5 |  |  |  |  |
| -16T | 16 | 23 | 25 | 20 | 52 | 34 | 105 | 5 |  |  |  |  |
| -17T | 17 | 25 | 25 | 24 | 52 | 34 | 116 | 5 |  |  |  |  |
| -18T | 18 | 26 | 25 | 24 | 52 | 34 | 120 | 5 |  |  |  |  |
| -19T | 19 | 27.5 | 25 | 24 | 52 | 34 | 127 | 5 |  |  |  |  |
| -20T | 20 | 28 | 25 | 24 | 52 | 34 | 119 | 5 |  |  |  |  |
| -21T | 21 | 29 | 25 | 24 | 52 | 34 | 124 | 5 |  |  |  |  |
| -22T | 22 | 31 | 29 | 25 | 52 | 34 | 166 | 5 |  |  |  |  |
| -23T | 23 | 32.5 | 29 | 25 | 52 | 34 | 173 | 5 |  |  |  |  |
| -24T | 24 | 34 | 29 | 25 | 52 | 34 | 179 | 5 |  |  |  |  |
| -25T | 25 | 35 | 29 | 25 | 52 | 34 | 184 | 5 |  |  |  |  |
| -26T | 26 | 36.5 | 29 | 25 | 75 | 57 | 285 | 5 |  |  |  |  |
| -27T | 27 | 38 | 29 | 25 | 75 | 57 | 307 | 5 |  |  |  |  |
| -28T | 28 | 40 | 29 | 25 | 75 | 57 | 336 | 5 |  |  |  |  |
| -29T | 29 | 41 | 29 | 25 | 75 | 57 | 346 | 5 |  |  |  |  |
| -30T | 30 | 42 | 29 | 25 | 75 | 57 | 349 | 5 |  |  |  |  |
| -31T | 31 | 43 | 29 | 25 | 75 | 57 | 359 | 5 |  |  |  |  |
| -32T | 32 | 44 | 29 | 25 | 75 | 57 | 362 | 5 |  |  |  |  |
| -33T | 33 | 45 | 29 | 28 | 75 | 57 | 377 | 5 |  |  |  |  |
| -34T | 34 | 46 | 29 | 28 | 75 | 57 | 396 | 5 |  |  |  |  |
| -35T | 35 | 47 | 29 | 28 | 75 | 57 | 414 | 5 |  |  |  |  |
| -36T | 36 | 48 | 29 | 28 | 75 | 57 | 433 | 5 |  |  |  |  |


-1/2"sq. IMPACT SOCKET (DEEP) рат.P.
WITH PINS \& RINGS


| IMAPACT SOCKET (DEEP) |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| BP4L -10TP | 10 | 15.5 | 25 | 20 | 75 | 57 | 101 | 5 |  |
| -12TP | 12 | 18 | 25 | 20 | 75 | 57 | 124 | 5 |  |
| -13TP | 13 | 19 | 25 | 20 | 75 | 57 | 124 | 5 |  |
| -14TP | 14 | 20.5 | 25 | 20 | 80 | 62 | 144 | 5 |  |
| -17TP | 17 | 25 | 24.5 | 24 | 80 | 62 | 187 | 5 |  |
| -19TP | 19 | 27.5 | 25 | 24 | 80 | 62 | 195 | 5 |  |
| -21TP | 21 | 29 | 25 | 24 | 80 | 62 | 193 | 5 |  |
| -22TP | 22 | 31 | 29 | 25 | 80 | 62 | 250 | 5 |  |
| -23TP | 23 | 32.5 | 29 | 25 | 80 | 62 | 264 | 5 |  |
| -24TP | 24 | 34 | 29 | 25 | 80 | 62 | 280 | 5 |  |
| -26TP | 26 | 36.5 | 29 | 25 | 100 | 82 | 391 | 5 |  |
| -27TP | 27 | 38 | 29 | 25 | 100 | 82 | 424 | 5 |  |
| -30TP | 30 | 42 | 29 | 25 | 100 | 82 | 487 | 5 |  |
| -32TP | 32 | 44 | 29 | 25 | 100 | 82 | 508 | 5 |  |

$\rfloor^{\text {caution }}$. Match the black pin with the black ring, and the silver pin with the grey ring.

$$
\text { e } 2
$$

PR-182 PR-1822 for BP4L-10TP~21TP
PR-2026 for BP4L-22TP~32TP
-1/2"sq. IMPACT SOCKET (DEEP) pat.p.


| IMAPACT SOCKET (DEEP) |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| BP4L-10T | 10 | 15.5 | 25 | 20 | 75 | 57 | 101 | 5 |  |
| -12T | 12 | 18 | 25 | 20 | 75 | 57 | 124 | 5 |  |
| -13T | 13 | 19 | 25 | 20 | 75 | 57 | 124 | 5 |  |
| -14T | 14 | 20.5 | 25 | 20 | 80 | 62 | 144 | 5 |  |
| -17T | 17 | 25 | 24.5 | 24 | 80 | 62 | 187 | 5 |  |
| -19T | 19 | 27.5 | 25 | 24 | 80 | 62 | 195 | 5 |  |
| -21T | 21 | 29 | 25 | 24 | 80 | 62 | 193 | 5 |  |
| -22T | 22 | 31 | 29 | 25 | 80 | 62 | 250 | 5 |  |
| -23T | 23 | 32.5 | 29 | 25 | 80 | 62 | 264 | 5 |  |
| -24T | 24 | 34 | 29 | 25 | 80 | 62 | 280 | 5 |  |
| -26T | 26 | 36.5 | 29 | 25 | 100 | 82 | 391 | 5 |  |
| -27T | 27 | 38 | 29 | 25 | 100 | 82 | 424 | 5 |  |
| -30T | 30 | 42 | 29 | 25 | 100 | 82 | 487 | 5 |  |
| -32T | 32 | 44 | 29 | 25 | 100 | 82 | 508 | 5 |  |

* Pins and rings are sold separately.

-1/2"sq. IMPACT SOCKET (LONG)


| IMPACT SOCKET (LONG) |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | d | H | L | $\ell$ | Vg | $\oplus$ |  |
| BP4LL-12TP | 12 | 18 | 25 | 10 | 20 | 150 | 132 | 230 | 5 |  |
| -13TP | 13 | 19 | 25 | 11.5 | 20 | 150 | 132 | 240 | 5 |  |
| -14TP | 14 | 20.5 | 25 | 12 | 20 | 150 | 132 | 260 | 5 |  |
| -17TP | 17 | 25 | 25 | 14 | 24 | 150 | 132 | 380 | 5 |  |
| -19TP | 19 | 27.5 | 25 | 17 | 24 | 150 | 132 | 410 | 5 |  |
| -21TP | 21 | 29 | 25 | 19 | 24 | 150 | 132 | 420 | 5 |  |
| -22TP | 22 | 31 | 29 | 20 | 25 | 150 | 132 | 500 | 5 |  |

$\coprod^{\text {caution }}$. Match the black pin with the black ring, and the silver pin with the grey ring.


PR-1822 for BP4LL-12TP~21TP PR-2026 for BP4LL-22TP

| IMPACT EXTENSION BAR |
| :--- |
| No． $\mathbf{D}_{1}$ $\mathbf{D}_{2}$ $\mathbf{L}$ $\boldsymbol{\nabla g}$ $\in$  <br> BEP4－075 18 29 75 180 1  <br> -100 18 29 100 230 1  <br> -150 18 29 150 300 1  |

－1／2＂sq．IMPACT EXTENSION BAR．pat．p．
$\bigwedge^{\text {caution }} \cdot$ DO NOT USE MULTIPLE EXTENSIONS．


| IMPACT UNIVERSAL JOINT |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | $\mathrm{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{L}$ | $\boldsymbol{\nabla g}$ | $\epsilon ⿴$ |  |
| BJP4 | 38 | 29 | 82.5 | 340 | 1 |  |

$\bigwedge^{\text {cAution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART．

－1／2＂sq．IMPACT UNIVERSAL JOINT pat．p．


Attached pins and rings PR－2026


| 1／2＂sq．INTERNAL DRIVE ADAPTOR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | sq． |  | D | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
|  | Internal | External |  |  |  |  |  |
| BAP43 | 1／2＂ | 3／8＂ | 28.5 | 41.7 | 110 | 1 |  |
| BAP46 | 1／2＂ | 3／4＂ | 28.5 | 50 | 160 | 1 |  |

！${ }^{\text {caution • FOR MAXIMUM TORQUE OF THE ADAPTOR，REFER TO THE SMALLER }}$ SIZE．DO NOT APPLY EXCESSIVE POWER．

－1／2＂sq．INTERNAL DRIVE ADAPTOR PaT．P．


| UNIVERSAL JOINT SOCKET |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | D1 | D2 | H | L | Vg | $\oplus$ |  |
| BP4L－17JUP | 17 | 27 | 29 | 18 | 194 | 470 | 5 |  |
| －19JUP | 19 | 28.5 | 29 | 18 | 194 | 470 | 5 |  |
| －24JUP | 24 | 36.5 | 29 | 18 | 194 | 510 | 5 |  |

＊Replacement parts are specified．Check with your dealer for details．
ACAUTION • DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART．
4 ！Match the black pin with the black ring，and the silver pin with the grey ring．

－1／2＂sq．IMPACT SOCKET FOR UNIVERSAL JOINT


| WHEEL NUT SOCKET SET FOR IMPACT WRENCH |  |  |
| :--- | :--- | :--- |
| No．TBP4903 | $\mathbf{5 6 0}$ | E日 $\mathbf{1}$ |
| Wheel nut socket for impact wrench |  | BP49－17，19， 21 |


| No． | S（Hexagonal） | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{H}$ | $\boldsymbol{\ell}$ | $\mathbf{L}$ | $\mathbf{V g}$ | $\in ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BP49－17 | 17 | 24.0 | 25 | 22 | 18 | 100 | 180 | 5 |  |
| BP49－19 | 19 | 26.0 | 25 | 24 | 18 | 100 | 190 | 5 |  |
| BP49－21 | 21 | 27.5 | 25 | 26 | 18 | 100 | 190 | 5 |  |
| BP49－22 | 22 | 29.5 | 25 | 27 | 18 | 100 | 210 | 5 |  |

## Usage

－Compatible with exclusive socket wrenches and impact wrenches used to tighten and loosen vehicle wheel nuts．

1／2＂sq．WHEEL NUT SOCKET SET FOR IMPACT WRENCH（LONG，THIN TYPE）pat．p．


Characteristics
－Exclusive socket for the aluminum wheel
－A protective rubber cushion has been fitted for chrome or painted nuts．
$\lambda^{\text {cauton } \cdot \text { DO NOT USE EXCEPT FOR CAR WHEEL NUTS }}$
SPECIALLY DESIGNED TO BE THINNER THAN ORDINARY PRODUCTS． dUE TO THE THINNER CONSTRUCTION，THIS SOCKET SET MAY BREAK DEPENDING ON THE WAY OF USE．
-3/4"sq. IMPACT SOCKET (STANDARD)


PR-2833 for BP6-17P~32P PR-4045 for BP6-35P~46P


| IMPACT S |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | © $¢$ |  |
| BP6-17P | 17 | 28.5 | 38 | 12 | 51 | 26 | 251 | 5 |  |
| -19P | 19 | 31 | 38 | 13 | 51 | 26 | 259 | 5 |  |
| -21P | 21 | 34 | 38 | 14 | 51 | 26 | 270 | 5 |  |
| -22P | 22 | 35 | 38 | 15 | 51 | 26 | 274 | 5 |  |
| -23P | 23 | 36.5 | 38 | 16 | 51 | 26 | 277 | 5 |  |
| -24P | 24 | 38 | 38 | 16 | 51.5 | 26.5 | 284 | 5 |  |
| -26P | 26 | 40 | 38 | 18 | 53 | 28 | 299 | 5 |  |
| -27P | 27 | 42 | 38 | 18.5 | 53.5 | 28.5 | 322 | 5 |  |
| -28P | 28 | 43 | 38 | 19 | 54 | 29 | 328 | 5 |  |
| -29P | 29 | 44 | 38 | 19 | 54 | 29 | 336 | 5 |  |
| -30P | 30 | 46 | 38 | 20 | 55 | 30 | 361 | 5 |  |
| -32P | 32 | 48 | 38 | 21 | 56 | 31 | 369 | 5 |  |
| -35P | 35 | 52 | 50 | 24 | 60.5 | 35.5 | 633 | 5 |  |
| -36P | 36 | 54 | 50 | 24 | 61 | 36 | 672 | 5 |  |
| -38P | 38 | 56 | 50 | 25 | 62 | 37 | 704 | 5 |  |
| -41P | 41 | 60 | 50 | 26 | 63 | 38 | 764 | 2 |  |
| -46P | 46 | 67 | 50 | 28 | 65 | 40 | 875 | 2 |  |

${ }^{\text {caution } \cdot \text { Match the black pin with the black ring, and the silver pin with the grey ring. }}$

## -3/4"sq. IMPACT SOCKET (DEEP)



PR-2833 for BP6L-19TP~34TP PR-4045 for BP6L-35TP~46TP


| IMPACT SOCKET (DEEP) |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | Ef |  |
| BP6L-19TP | 19 | 29 | 38 | 24 | 100 | 75 | 410 | 5 |  |
| -21TP | 21 | 32 | 38 | 24 | 100 | 75 | 455 | 5 |  |
| -22TP | 22 | 33 | 38 | 25 | 100 | 75 | 474 | 5 |  |
| -23TP | 23 | 35 | 38 | 25 | 100 | 75 | 502 | 5 |  |
| -24TP | 24 | 36 | 38 | 25 | 100 | 75 | 479 | 5 |  |
| -26TP | 26 | 38 | 38 | 25 | 100 | 75 | 496 | 5 |  |
| -27TP | 27 | 40 | 38 | 25 | 100 | 75 | 546 | 5 |  |
| -29TP | 29 | 43 | 38 | 25 | 100 | 75 | 609 | 5 |  |
| -30TP | 30 | 44 | 38 | 25 | 100 | 75 | 617 | 5 |  |
| -32TP | 32 | 46 | 38 | 28 | 100 | 75 | 638 | 5 |  |
| -33TP | 33 | 48 | 38 | 28 | 100 | 75 | 693 | 5 |  |
| -34TP | 34 | 49 | 38 | 28 | 100 | 75 | 714 | 5 |  |
| -35TP | 35 | 50 | 50 | 28 | 100 | 75 | 901 | 5 |  |
| -36TP | 36 | 52 | 50 | 28 | 100 | 75 | 964 | 5 |  |
| -38TP | 38 | 55 | 50 | 30 | 100 | 75 | 1,056 | 5 |  |
| -41TP | 41 | 58 | 50 | 32 | 100 | 75 | 1,092 | 2 |  |
| -46TP | 46 | 65 | 50 | 38 | 100 | 75 | 1,399 | 2 |  |

$\prod^{\text {caution } \cdot \text { Match the black pin with the black ring, and the silver pin with the grey ring. }}$
-3/4"sq. IMPACT COMBINATION SOCKET FOR WHEEL NUT


$\square^{\text {caution }}$ - Match the black pin with the black ring, and the silver pin with the grey ring.


| IMPACT INNER SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ $¢$ |  |
| ABP6-17SQP | 17 | 40 | 38 | 18.5 | 56.5 | 31.5 | 370 | 5 |  |
| -19SQP | 19 | 40 | 38 | 18.5 | 56.5 | 31.5 | 322 | 5 |  |
| -20SQP | 20 | 40 | 38 | 20.5 | 58.5 | 33.5 | 346 | 5 |  |
| -21SQP | 21 | 40 | 38 | 22.5 | 60.5 | 35.5 | 350 | 5 |  |

$\wedge^{\text {caution }} \cdot$ Match the black pin with the black ring, and the silver pin with the grey ring.


| IMPACT SOCKET FOR WHEEL NUT (DEEP • THIN) |  |
| :---: | :---: |


| No. | S | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{H}$ | $\mathbf{L}$ | $\boldsymbol{\ell}$ | $\boldsymbol{\nabla} g$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BP6L-33TP | 33 | 48 | 38 | 28 | 100 | 75 | 693 | 5 |  |

- Deep thin wall type that supports the new ISO wheel.
$0^{\text {aunoon }}$.
- Combine the black pin with black ring and silver pin with gray ring.

-3/4"sq. IMPACT INNER SOCKET
Attached pins and ring PR-2833


Pin: Black Ring: Black
-3/4"sq. IMPACT SOCKET FOR WHEEL NUT (DEEP • THIN) pat.


| Impact exiension bar |  |  |  |  |  | ©3/4"sq. IMPACT EXTENSION BAR | Attached pins and rings PR-2833 <br> Pin: Black Ring: Black |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D1 | $\mathrm{D}_{2}$ | L | Vg | ¢ |  |  |
| BEP6-100 | 25 | 38 | 10 | 490 | 1 |  |  |
| -150 | 25 | 38 | 15 | 680 | 1 |  |  |
| -250 | 25 | 38 | 25 | 1,070 | 1 |  |  |
| $\^{\text {caution }}$. DO NOT USE MULTIPLE EXTENSIONS. |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |


| IMPACT UNIVERSAL JOINT |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  |  |  |  |  |
| BJP6 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |



$\left\rfloor^{\text {aunoun. DO NOT APPLY EXCESSIIVE POWER ON THE JOINT PART. }}\right.$


| INTERNAL DRIVE IMPACT LONG ADAPTOR |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | sq. |  | D1 | D2 | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
|  | Internal | External |  |  |  |  |  |  |
| BAP64-150 | 3/4" | 1/2" | 20 | 40 | 150 | 500 | 1 |  |

$\bigwedge^{\text {cautron }} \cdot$ FOR MAXIMUM TORQUE OF THE ADAPTOR, REFER TO THE SMALLER


3/4"sq. INTERNAL DRIVE $\quad$ Attached pins and rings IMPACT LONG ADAPTOR
-1"sq. IMPACT SOCKET (STANDARD)


PR-4045 for BP8-21P~35P PR-4348 for BP8-36P~70P


| IMPACT SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | s | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | $\oplus$ |  |
| BP8-21P | 21 | 36 | 50 | 16 | 58 | 28 | 483 | 2 |  |
| -22P | 22 | 38 | 50 | 16 | 58 | 28 | 490 | 2 |  |
| -23P | 23 | 38.5 | 50 | 16 | 58 | 28 | 496 | 2 |  |
| -24P | 24 | 40 | 50 | 16.5 | 58 | 28 | 502 | 2 |  |
| -26P | 26 | 42.5 | 50 | 18 | 60 | 30 | 525 | 2 |  |
| -27P | 27 | 44 | 50 | 18.5 | 60 | 30 | 538 | 2 |  |
| -28P | 28 | 45 | 50 | 19 | 60 | 30 | 535 | 2 |  |
| -29P | 29 | 46.5 | 50 | 19 | 60 | 30 | 549 | 2 |  |
| -30P | 30 | 48 | 49.5 | 22 | 70 | 40 | 633 | 2 |  |
| -32P | 32 | 50 | 49.5 | 25 | 70 | 40 | 641 | 2 |  |
| -33P | 33 | 52 | 50 | 25 | 70 | 40 | 686 | 2 |  |
| -35P | 35 | 54 | 50 | 25 | 70 | 40 | 701 | 2 |  |
| -36P | 36 | 56 | 53 | 25 | 70 | 40 | 790 | 2 |  |
| -38P | 38 | 58 | 53 | 30 | 80 | 50 | 939 | 2 |  |
| -41P | 41 | 63 | 53 | 35 | 80 | 50 | 1,045 | 2 |  |
| -46P | 46 | 70 | 53 | 41.2 | 80 | 50 | 1,130 | 1 |  |
| -50P | 50 | 76 | 53 | 37.4 | 80 | 50 | 1,273 | 1 |  |
| -54P | 54 | 81 | 53 | 35.2 | 82 | 52 | 1,434 | 1 |  |
| -55P | 55 | 82.5 | 53 | 35.2 | 82 | 52 | 1,481 | 1 |  |
| -58P | 58 | 86 | 53 | 35.2 | 82 | 52 | 1,569 | 1 |  |
| -60P | 60 | 88 | 53 | 35.2 | 82 | 52 | 1,604 | 1 |  |
| -65P | 65 | 94 | 53 | 37.4 | 87 | 57 | 1,926 | 1 |  |
| -70P | 70 | 101 | 53 | 35.4 | 87 | 57 | 2,235 | 1 |  |

$\rfloor^{\text {caution }}$ - Match the black pin with the black ring, and the silver pin with the grey ring.

| IMPACT SOCKET (DEEP) |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | E日 |  |
| BP8L-22TP | 22 | 35 | 50 | 25 | 100 | 70 | 696 | 2 |  |
| -24TP | 24 | 38 | 50 | 25 | 100 | 70 | 723 | 2 |  |
| -27TP | 27 | 42 | 50 | 25 | 100 | 70 | 794 | 2 |  |
| -29TP | 29 | 44.5 | 49.5 | 25 | 100 | 70 | 822 | 2 |  |
| -30TP | 30 | 46 | 49.5 | 25 | 100 | 70 | 836 | 2 |  |
| -32TP | 32 | 48 | 49.5 | 25 | 100 | 70 | 858 | 2 |  |
| -33TP | 33 | 50 | 49.5 | 25 | 100 | 70 | 924 | 2 |  |
| -35TP | 35 | 52 | 50 | 25 | 100 | 70 | 924 | 2 |  |
| -36TP | 36 | 54 | 53 | 30 | 100 | 70 | 1,034 | 2 |  |
| -38TP | 38 | 56 | 53.5 | 30 | 100 | 70 | 1,080 | 2 |  |
| -41TP | 41 | 60 | 53 | 35 | 100 | 70 | 1,170 | 2 |  |
| -46TP | 46 | 68 | 53 | 35 | 100 | 70 | 1,534 | 1 |  |
| -50TP | 50 | 74 | 53 | 37.2 | 100 | 70 | 1,636 | 1 |  |
| -55TP | 55 | 79 | 53 | 51.4 | 110 | 80 | 1,866 | 1 |  |
| -60TP | 60 | 85.5 | 53 | 51.4 | 110 | 80 | 2,135 | 1 |  |
| -65TP | 65 | 92 | 53 | 65.4 | 120 | 90 | 2,630 | 1 |  |
| -70TP | 70 | 99 | 53 | 65.4 | 120 | 90 | 3,073 | 1 |  |

FOWERTM
$!^{\text {caution - Match the black pin with the black ring, and the silver pin with the grey ring }}$
-1"sq. IMPACT SOCKET FOR WHEEL NUT (THIN)

IMPACT SOCKET FOR WHEEL NUT

| No. | $\mathbf{S}$ | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{H}$ | $\mathbf{L}$ | $\boldsymbol{\ell}$ | $\mathbf{V g}$ | $\in ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ABP8-32TP | 32 | 46.5 | 50 | 25 | 80 | 50 | 680 | 2 |  |
| -35TP | 35 | 50 | 50 | 25 | 80 | 50 | 710 | 2 |  |
| -38TP | 38 | 55 | 50 | 30 | 80 | 50 | 800 | 2 |  |
| -41TP | 41 | 58 | 50 | 35 | 80 | 50 | 840 | 2 |  |

- A tool with the thin wall design that can be used for car types with lesser POWERTI. clearance between the wheel hub and wheel nut.
- The outer diameter has been reduced by $94 \%$ in comparison with the previous products.
Usage
- Tightening and loosening wheel nuts (outer nut) for middle size vehicles (2 t 4 t ) and large vehicles ( 4 t and above, such as buses).
caution• Match the black pin with the black ring, and the silver pin with the grey ring.

| WHEEL NUT COMBINATION SOCKET FOR IMPACT USE |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\begin{array}{c\|} \mathbf{S}_{1} \\ \text { Hexagonal } \end{array}$ | $\begin{array}{c\|} \hline \mathbf{S}_{2} \\ \text { Square } \end{array}$ | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | H | L | $\ell$ | Vg | ¢ |  |
| ABP8-3517TP | 35 | 17 | 50 | 50 | 13 | 83 | 53 | 830 | 2 |  |
| -3820TP | 38 | 20 | 55 | 50 | 14 | 80 | 50 | 840 | 2 |  |
| -4119TP | 41 | 19 | 58 | 50 | 14 | 85 | 55 | 890 | 2 |  |
| -4120TP | 41 | 20 | 58 | 50 | 14 | 87 | 57 | 900 | 2 |  |
| -4121TP | 41 | 21 | 58 | 50 | 14 | 87 | 57 | 900 | 2 |  |

- It is a labor-saving tool for the loosening/tightening work of both outer and inner nuts with just 1 wrench.
- It is a thin wall type that's also effective for vehicle models that have less clearance for wheel hubs and wheel nuts.
! $^{\text {caution }} \cdot$ Match the black pin with the black ring, and the silver pin with the grey


## IMPACT LONG COMBINATION SOCKET FOR WHEEL NUT

1"sq. IMPACT LONG COMBINATION SOCKET

| No. | $\mathbf{S}_{1}$ <br> Hex. | $\mathbf{S}_{2}$ <br> Square | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{H}$ | $\boldsymbol{\ell}$ | $\mathbf{L}$ | $\boldsymbol{\nabla} \mathrm{~kg}$ | $\epsilon \oplus$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ABP8ZL-4121TP | 41 | 21 | 58 | 50 | 14 | 55 | 450 | 2.8 | 1 |

- It is a labor-saving tool for the loosening/tightening work of both outer and inner nuts with just 1 wrench.
- It is a thin wall type that's also effective for vehicle models that have less clearance for wheel hubs and wheel nuts
- Looseness is eliminated by integrating the combination socket and extension bar, allowing
the torque management with higher accuracy even when torque wrench is used.
- With the long design of 450 mm total length, it can be used without interference even with the wide body.
$\rfloor^{\text {caution. Combine the black pin with black ring and silver pin with gray ring. }}$

| IMPACT INNER SOCKET |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | H | L | \& | Vg | ¢ |  |
| ABP8-17SQP | 17 | 40 | 50 | 18.5 | 61.5 | 31.5 | 600 | 5 |  |
| -19SQP | 19 | 42 | 50 | 18.5 | 61.5 | 31.5 | 595 | 5 |  |
| -20SQP | 20 | 43 | 50 | 20.5 | 63.5 | 33.5 | 630 | 5 |  |
| -21SQP | 21 | 44 | 50 | 22.5 | 65.5 | 33.5 | 680 | 5 |  |


$\prod^{\text {caution. Match the black pin with the black ring, and the silver pin with the grey }}$ ring.

| IMPACT SOCKET (DEEP) |
| :--- |
| No. |
| S |
| BPL-33TP |

- Deep thin wall type that supports the new ISO wheel.
$\rfloor^{\text {caution. It may not be usable for some models. }}$
- Combine the black pin with black ring and silver pin with gray ring.


HIN ) Рат.

1"sq. IMPACT EXTENSION BAR

| IMPACT EXTENSION BAR |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D1 | $\mathrm{D}_{2}$ | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| BEP8-150 | 33 | 50 | 150 | 1,065 | 1 |  |
| -200 | 33 | 50 | 200 | 1,380 | 1 |  |
| -250 | 33 | 50 | 250 | 1,750 | 1 |  |

$入^{\text {caution } \cdot D O}$ NOT USE MULTIPLE EXTENSIONS.
! - Match the black pin with the black ring, and the silver pin with the grey ring.


Attached pins and rings PR-4045


Pin: Silver
Ring: Grey

| INTERNAL $\times$ EXTERNAL DRIVE IMPACT ADAPTOR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | sq. |  | D | L | $\nabla \mathrm{g}$ | $\oplus$ |  |
|  | Internal | External |  |  |  |  |  |
| BAP86 | 1 " | 3/4" | 50 | 75 | 510 | 1 |  |


| No. | sq. |  | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{L}$ | $\boldsymbol{\nabla}$ |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Internal | External |  |  |  |  |  |  |
| BAP86-150 | $1^{\prime \prime}$ | $3 / 4^{\prime \prime}$ | 28 | 50 | 150 | 900 | 1 |  |

$\prod^{\text {caution } \cdot F O R ~ M A X I M U M ~ T O R Q U E ~ O F ~ T H E ~ A D A P T O R, ~ R E F E R ~ T O ~ T H E ~ S M A L L E R ~}$ SIZE. DO NOT APPLY EXCESSIVE POWER.

- Match the black pin with the black ring, and the silver pin with the grey ring.

-1"sq. INTERNAL $\times 3 / 4$ "sq.
EXTERNAL DRIVE IMPACT
ADAPTOR


Pin: Silver
Ring: Grey

-3/8"sq. IMPACT HEX. WRENCH


| IMPACT HEX. WRENCH SET (6pcs.) |  |  |
| :--- | :--- | :--- |
| No. TBTP306P | $\boldsymbol{\nabla g ~ 4 3 2}$ | E日 1 |
| Impact Hex. Wrench |  | BTP3-04P, 05P, 06P, 08P, 10P, 12P |
| Socket Holder | EHB306 |  |

Socket Holder EHB306

* Pins and rings are sold separately.
IMPACT HEX. WRENCH

|  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | Vg | 臼 |  |
| BTP3-04P | 4 | 22 | 45 | 51 | 10 |  |
| -05P | 5 | 22 | 45 | 53 | 10 |  |
| -06P | 6 | 22 | 45 | 55 | 10 |  |
| -08P | 8 | 22 | 45 | 60 | 10 |  |
| -10P | 10 | 22 | 52 | 74 | 10 |  |
| -12P | 12 | 22 | 52 | 84 | 10 |  |

- The tool can sufficiently withstand the use of the impact wrench due to $\boldsymbol{K T C}$ unique design.
$\rfloor^{\text {caution } \cdot \text { Match the black pin with the black ring, and the silver pin with the grey ring. }}$
-1/2"sq. IMPACT HEX. WRENCH


| IMPACT HEX. WRENCH SET (6pcs.) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. TBTP406P |  | Vg 768 | \& 1 |  |  |
| Impact Hex. Wrench |  |  | BTP4-06P, 08P, 10P, 12P, 14P, 17P |  |  |
| Socket Holder |  |  | EHB4108 |  |  |
| * Pins and rings are sold separately. |  |  |  |  |  |
| IMPACT HEX. WRENCH |  |  |  |  |  |
| No. | S | D | L | Vg | $\oplus$ |
| BTP4-06P | 6 | 25 | 60 | 78 | 10 |
| -08P | 8 | 25 | 60 | 87 | 10 |
| -10P | 10 | 25 | 60 | 97 | 10 |
| -12P | 12 | 25 | 60 | 109 | 10 |
| -14P | 14 | 25 | 60 | 124 | 10 |
| -17P | 17 | 25 | 60 | 149 | 10 |

* Pins and rings are sold separately.
- The tool can sufficiently withstand the use of the impact wrench due to $\boldsymbol{K T C}$ unique design
$!^{\text {caution }} \cdot$ Match the black pin with the black ring, and the silver pin with the grey ring.

| 3/8"sq. T-TYPE IMPACT TORX ${ }^{\circledR}$ WRENCH \& SET (5pcs.) | Attached pins and rings PR-1519 <br> Pin: Silver Ring: Grey | IMPACT TORX ${ }^{\circledR}$ WRENCH - SET (5pcs.) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No. TBTP305T |  | Vg 395 ¢ 1 |  |  |  |
|  |  | T-Type Impact $\mathbf{T O R X}{ }^{*}$ Wrench (3/8"sq.) |  | BTP3-T20, T25, T30, T40, T45 |  |  |  |
| t |  | No. | Fastener | L | $\nabla \mathrm{g}$ | $\oplus$ |  |
|  |  | BTP3-T20P | T20 | 75 | 77 | 1 |  |
|  |  | -T25P | T25 | 75 | 78 | 1 |  |
|  |  | -T30P | T30 | 75 | 79 | 1 |  |
|  |  | -T40P | T40 | 75 | 80 | 1 |  |
|  |  | -T45P | T45 | 75 | 81 | 1 |  |

$!^{\text {caution } \cdot \text { Match the black pin with the black ring, and the silver pin with the grey ring. }}$
. $\mathbf{T O R X}{ }^{\circledR}$ is a registered trademark for the Textron Fastening Systems.

OPIN \& RING SET FOR IMPACT WRENCH


PR-1519

PR-1822

PR-2026

PR-2833

PR-4045

PR-4348 List of applied pin/ring sets for the 21st Century Version Tool impact socket (5 pins and rings indudued).
To be released in September 2005
Caution: there is no compatibility with tools other than the 21st Century Version Tools.

■ BP4-

| Applied product number Without pins/rings | Applied product number With pins/rings | Pin/ring set product number |  |
| :---: | :---: | :---: | :---: |
| BP4-08 | BP4-08P | PR-1822 |  |
| -09 | -09P | -1822 |  |
| -10 | -10P | -1822 |  |
| -11 | -11P | -1822 |  |
| -12 | -12P | -1822 |  |
| -13 | -13P | -1822 |  |
| -14 | -14P | -1822 |  |
| -15 | -15P | -1822 |  |
| -16 | -16P | -1822 |  |
| -17 | -17P | -1822 |  |
| -19 | -19P | -1822 |  |
| -21 | -21P | -1822 |  |
| -22 | -22P | PR-2026 |  |
| -23 | -23P | -2026 |  |
| -24 | -24P | -2026 |  |
| -26 | -26P | -2026 |  |
| -27 | -27P | -2026 |  |
| -28 | -28P | -2026 |  |
| -29 | -29P | -2026 |  |
| -30 | -30P | -2026 |  |
| -32 | -32P | -2026 |  |

BP4M-


## Attaching the pin/ring

The protruding section within the inner side of the ring must be set so that it enters the pin hole of the socket.


Sockets for impact wrenches

A protruding section is provided on the exterior of the ring in order to indicate the position of the hole while the ring is set.

BP4L-

| Applied product number <br> Without pins/rings | Applied product number <br> With pins/rings | Pin/ring set product number |  |
| :---: | :---: | :---: | :---: |
| BP4L-10T | BP4L-10TP | PR-1822 |  |
| $-12 T$ | $-12 T P$ | -1822 |  |
| $-13 T$ | $-13 T P$ | -1822 |  |
| $-14 T$ | $-14 T P$ | -1822 |  |
| $-17 T$ | $-17 T P$ | -1822 |  |
| $-19 T$ | $-19 T P$ | -1822 |  |
| $-21 T$ | $-21 T P$ | -1822 |  |
| $-22 T$ | $-22 T P$ | PR | -2026 |
| $-23 T$ | $-23 T P$ | -2026 |  |
| $-24 T$ | $-24 T P$ | -2026 |  |
| $-26 T$ | $-26 T P$ | -2026 |  |
| $-27 T$ | $-27 T P$ | -2026 |  |
| $-30 T$ | $-30 T P$ | -2026 |  |
| $-32 T$ | $-32 T P$ | -2026 |  |

BEP4-

| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| BEP4-075 | PR-2026 |  |
| -100 | -2026 |  |
| -150 | -2026 |  |

BJP

| Applied product number | Pin/ring set product number |  |
| :--- | :---: | :---: |
| BJP4 | PR-2026 |  |

BAP

| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| BAP43 | PR-2026 |  |
| 43 | -2026 |  |



List of applied pin/ring sets for the impact socket ( 5 pins and rings included).
*Caution: there is no compatibility with the 21st Century Version Tools.

## - PB



| -32 H | -324 B |  |
| :--- | :--- | :--- | :--- |

List of applied pin/ring sets for the impact socket ( 5 pins and rings included).
*Caution: there is no compatibility with the 21st Century Version Tools.

## PHB

| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| PB54-32H | BPYPR -544 |  |
| -35 H | -544 |  |
| -38 H | -544 |  |
| -41 H | -544 |  |
| PB55-22H | -544 |  |
| -24 H | -544 |  |
| -27 H | -544 |  |
| -29 H | -544 |  |
| -30 H | -544 |  |
| -32 H | -544 |  |
| -35 H | -544 |  |
| -36 H | BPYPR -547 |  |
| -38 H | -547 |  |
| -41 H | BPYPR -544 |  |
| -46 H | BPYPR -547 |  |
| -50 H | -547 |  |
| -55 H | BPYPR -554 |  |
| -60 H | -554 |  |
| -65 H | -554 |  |
| -70 H | -554 |  |

ABP

| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| ABP6-17Y | BPYPR -435 |  |
| $-19 Y$ | -435 |  |
| -20 Y | -435 |  |
| -21 Y | -435 |  |
| ABP8-17Y | BPYPR -544 |  |
| -19 Y | -544 |  |
| -20 Y | -544 |  |
| -21 Y | -544 |  |

IPBA

| Applied product number | Pin/ring set product number |  |
| :--- | :---: | :--- |
| PBA2030 | BPYPR-219 |  |
| PBA3020 | BPYPR-324A |  |
| PBA3040 | $-324 A$ |  |
| PBA4030 | BPYPR-434 |  |
| PBA4030-150 | BPYPR-435 |  |
| PBA4050 | BPYPR-434 |  |
| PBA5040 | BPYPR-544 |  |
| PBA5040-150 | -544 |  |

- PBE

| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| PBE20 -75 | BPYPR -219 |  |
| -100 | -219 |  |
| PBE30 -75 | BPYPR $-324 B$ |  |
| -100 | $-324 B$ |  |
| -150 | $-324 B$ |  |
| PBE40 -100 | BPYPR -435 |  |
| -150 | -435 |  |
| -250 | -435 |  |
| PBE50 -150 | BPYPR -544 |  |
| -200 | -544 |  |
| -250 | -544 |  |

$\square$ PBJ

| Applied product number | Pin/ring set product number |  |
| :--- | :---: | :---: |
| PBJ30 | BPYPR-324B |  |
| PBJ40 | BPYPR-435 |  |
| PBJ31L-17H | BPYPR-324B |  |
| -19 H | -324 B |  |
| $-24 \mathrm{H}$ |  | -324 B |


| Applied product number | Pin/ring set product number |  |
| :---: | :---: | :---: |
| PHB20-4 | BPYPR-214 |  |
| -5 | -214 |  |
| -6 | -214 |  |
| -8 | -214 |  |
| -10 | BPYPR-219 |  |
| -12 | -219 |  |
| PHB30-6 | BPYPR-322 |  |
| -8 | -322 |  |
| -10 | -322 |  |
| -12 | -322 |  |
| -14 | -322 |  |
| -17 | -322 |  |
|  |  |  |
| S6 |  |  |
| Applied product number | Pin/ring set product number |  |
| S6T20 | BPYPR-214 |  |
| S6T25 | -214 |  |
| S6T30 | -214 |  |
| S6T40 | -214 |  |
| S6T45 | -214 |  |

S6

## Attaching the pin/ring

The protruding section within the inner side of the ring must be set so that it enters the pin hole of the socket.


Sockets for impact wrenches



Never use pieces inappropriately as this is dangerous.

## Impact socket pin/rubber ring size checker

BPYPR-214


Pin : ø2.5x14.6 Ring inner diameter : $\varnothing 14.45$

BPYPR-215


Pin : $\varnothing 2.5 \times 15$
Ring inner diameter : ø15.2

BPYPR-219


Pin : $\varnothing 2.5 \times 15$
Ring inner diameter : $\varnothing 19.1$

BPYPR-222


Pin : ø2.5×15
Ring inner diameter : ø22.05

BPYPR-321


Pin : $\varnothing 3 \times 18$ Ring inner diameter : 020.6

BPYPR-322


Pin: $\varnothing 3 \times 18$
Ring inner diameter : ø22.05

BPYPR-324A


Pin: $\varnothing 3 \times 18$
Ring inner diameter : ø24.2

BPYPR-324B


Pin: $\varnothing 3 \times 19$
Ring inner diameter : ø24.2

BPYPR-324C


Pin: $\varnothing 3 \times 19.5$
Ring inner diameter : $\varnothing 24.2$

*There is no protruding section on the ring on the BPYPR-214 and 215.

## 2. CONVENTIONAL TOOLS <br> HEXAGONAL WRENCHES <br> - USE A WRENCH APPROPRIATETE TO THE SIZE OF A BOLT <br> - INSERT A WRENCH DEEPLY INTO A BOLT

HEXAGONAL WRENCH SETS

- READ THE CAUTION MESSAGE CAREFULLY FOR EACH TOOL.
- INSERT THE SQUARE DRIVE OF A DRIVE TOOL DEEPLY TO

THE END.

- DO NOT GIVE ANY IMPACT BY HITTING WITH HAMMERS, ETC
- DO NOT APPLY ANY POWER TOOL SUCH AS IMPACT

WRENCH

| CROSS • FLAT BIT SOCKET |
| :--- |
| No. Number D L $\boldsymbol{\ell}$ $\boldsymbol{\nabla g}$ 臼  <br> BT2-1P No.1 16 54.5 32 36 10  <br> -2P No.2 16 59.5 37 38 10  |


| No. | a | b | D | L | $\ell$ | $\boldsymbol{\nabla}$ g | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT2-6M | 1.0 | 6 | 16 | 59.5 | 37 | 38 | 10 |  |

- Bit replacement is possible. (Refer to P.105)
-1/4"sq. CROSS • FLAT BIT SOCKET

POWERTM


-1/4"sq. LONG HEX. BIT SOCKET

caution • Care should be taken not to force this piece as the torque limit of the ball point is low.
LONG HEX. BIT SOCKET

|  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | $\boldsymbol{V}$ | g | 臼 |
| BT2-03L | 3 | 16 | 121.5 | 99 | 54 | 10 |  |
| -04L | 4 | 16 | 121.5 | 99 | 54 | 10 |  |
| -05L | 5 | 16 | 121.5 | 99 | 55 | 10 |  |
| -06L | 6 | 16 | 121.5 | 99 | 56 | 10 |  |


| LONG HEX. BIT SOCKET in |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | Vg | \& |  |
| BT2-1/8 L | 3.1 | 16 | 121.5 | 99 | 54 | 10 |  |
| $-9 / 64 \mathrm{~L}$ | 3.5 | 16 | 121.5 | 99 | 54 | 10 |  |
| $-5 / 32 \mathrm{~L}$ | 3.9 | 16 | 121.5 | 99 | 54 | 10 |  |
| $-3 / 16 \mathrm{~L}$ | 4.7 | 16 | 121.5 | 99 | 55 | 10 |  |
| $-7 / 32 \mathrm{~L}$ | 5.5 | 16 | 121.5 | 99 | 56 | 10 |  |
| $-1 / 4 \mathrm{~L}$ | 6.3 | 16 | 121.5 | 99 | 56 | 10 |  |
| - Bit replacement is possible. (Refer to P.105) POWERIM. |  |  |  |  |  |  |  |
| LONG HEX. BIT SOCKET SET (4pcs.) • (6pcs.) mm . in |  |  |  |  |  |  |  |
| No. TBT2L04H |  | Vg 275 |  | $\oplus 1$ |  |  |  |
| Long hexagon bit socket (1/4"sq.) mm |  |  |  | BT2-03L,04L,05L,06L |  |  |  |
| Socket holder |  |  |  | EHB205 |  |  |  |
| No. TBT2L06BH $\quad$ g 390 |  |  |  | ¢ 1 |  |  |  |
| Long hexagon bit socket (1/4"sq.) in |  |  |  | BT2-1/8L, $9 / 64 \mathrm{~L}, 5 / 32 \mathrm{~L}, 3 / 16 \mathrm{~L}, 7 / 32 \mathrm{~L}, 1 / 4 \mathrm{~L}$ |  |  |  |
| Socket holder |  |  |  | EHB210 |  |  |  |

LONG BALL POINT HEX. BIT SOCKET

|  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | $\nabla \mathrm{g}$ | $\epsilon$ |  |
| BT2-03BPL | 3 | 16 | 121.5 | 99 | 54 | 10 |  |
| -04BPL | 4 | 16 | 121.5 | 99 | 54 | 10 |  |
| -05BPL | 5 | 16 | 121.5 | 99 | 55 | 10 |  |
| -06BPL | 6 | 16 | 121.5 | 99 | 56 | 10 |  |



| LONG BALL POINT HEX. BIT SOCKET SET (4pcs.) • (6pcs.) mm . in |  |  |
| :--- | :---: | :---: |
| No. TBT2L04BPH | $\nabla \mathrm{g} \mathrm{275}$ | $\oplus 1$ |


| Long ball point hexagon bit socket (1/4"sq.) mm | BT2-03BPL,04BPL,05BPL,06BPL |
| :--- | :--- |
| Socket holder | EHB205 |
|  |  |
| No. TBT2L06BPBH | $\nabla \mathrm{g} \mathrm{390}$ |
| Long ball point hexagon bit socket (1/4"sq.) in | BT2-1/8BPL $, 9 / 64 \mathrm{BPL}, 5 / 32 \mathrm{BPL}, 3 / 16 \mathrm{BPL}$, |
|  |  |
| Socket holder | EHB210 $\mathrm{BPL}, 1 / 4 \mathrm{BPL}$ |


| CROSS . FLAT BIT SOCKET |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Number | D | L | $\ell$ | Vg | ¢ $\dagger$ |
| BT3-1P | No. 1 | 17 | 61 | 32 | 43 | 10 |
| -2P | No. 2 | 17 | 66 | 37 | 45 | 10 |
| -3P | No. 3 | 18.5 | 71 | 42 | 63 | 10 |


| No. | a | $\mathbf{b}$ | $\mathbf{D}$ | $\mathbf{L}$ | $\boldsymbol{\ell}$ | $\boldsymbol{\nabla}$ | $\epsilon \in$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3-6M | 1.0 | 6 | 17 | 66 | 37 | 45 | 10 |  |

- Bit replacement is possible. (Refer to P.105) POWERAF


| SHORT HEX. BIT SOCKET |
| :--- |
| No. S D L $\ell$ $\boldsymbol{\nabla}$ gm  <br> BT3-03SS 3 17 34 5 36 1  <br> -04SS 4 17 34 5 36 1  <br> -05SS 5 17 34 5 37 1  <br> -06SS 6 17 35.5 6.5 37 1  <br> -07SS 7 18.5 36 7 49 1  <br> -08SS 8 18.5 37 8 49 1  <br> -09SS 9 18.5 39.5 9.5 55 1  <br> -10SS 10 18.5 39.5 9.5 56 1  <br> -12SS 12 22 42 10 87 1  |


| SHORT HEX. BIT SOCKET SET (9pcs.) | mm |
| :---: | :---: |
| No. TBT3SS09H | ¢ 1 |
| Stubby hexagon bitsocket (3/8"sq.) mm | $\begin{gathered} \text { BT3-03SS, 04SS, 05SS, 06SS, 07SS, } \\ \text { 08SS, 09SS, 10SS, 12SS } \end{gathered}$ |

- Bit replacement is possible. (Refer to P.105)

POWERATI.
-3/8"sq. SHORT HEX. BIT SOCKET



## SHORT HEX. BIT SOCKET

| No. | S | D | L | $\ell$ | Vg | ¢ $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3-1/8 S | 3.1 | 17 | 48 | 19 | 40 | 10 |  |
| $-9 / 64 \mathrm{~S}$ | 3.5 | 17 | 48 | 19 | 40 | 10 |  |
| $-5 / 32 \mathrm{~S}$ | 3.9 | 17 | 48 | 19 | 40 | 10 |  |
| $-3 / 1{ }_{6} \mathrm{~S}$ | 4.7 | 17 | 48 | 19 | 40 | 10 |  |
| $-7 / 32 \mathrm{~S}$ | 5.5 | 17 | 50 | 21 | 42 | 10 |  |
| $-1 / 4 \mathrm{~S}$ | 6.3 | 17 | 50 | 21 | 42 | 10 |  |
| $-5 / 16_{6} \mathrm{~S}$ | 7.9 | 18.5 | 50 | 21 | 56 | 10 |  |
| $-3 / 8 \mathrm{~S}$ | 9.5 | 18.5 | 52 | 22 | 62 | 10 |  |
| $-7 / 16 \mathrm{~S}$ | 11.1 | 22 | 54 | 22 | 99 | 10 |  |


| SHORT HEX. BIT SOCKET SET (9pcs.) | mm . in |
| :---: | :---: |
| No. TBT3S09H $\quad$ g 620 | ¢ 1 |
| Short hexagon bit socket (3/8"sq.) mm | BT3-03S,04S,05S,06S,07S,08S,09S,10S,12S |
| Socket holder | EHB310 |
| No. TBT3S09BH | ¢ 1 |
| Short hexagon bit socket (3/8"sq.) in | $\begin{aligned} & \text { BT } 3-1 / 8 \mathrm{~S}, 9 / 64 \mathrm{~S}, 5 / 32 \mathrm{~S}, 3 / 16 \mathrm{~S}, 7 / 32 \mathrm{~S}, 1 / 4 \mathrm{~S}, \\ & 5 / 16 \mathrm{~S}, 3 / 8 \mathrm{~S}, 7 / 16 \mathrm{~S} \end{aligned}$ |
| Socket holder | EHB310 |

Socket holder EHB310

| SHORT HEX. BIT SOCKET |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | Vg | ¢ |  |
| BT3-03S | 3 | 17 | 48 | 19 | 40 | 10 |  |
| -04S | 4 | 17 | 48 | 19 | 40 | 10 |  |
| -05S | 5 | 17 | 50 | 21 | 41 | 10 |  |
| -06S | 6 | 17 | 50 | 21 | 42 | 10 |  |
| -07S | 7 | 18.5 | 50 | 21 | 56 | 10 |  |
| -08S | 8 | 18.5 | 50 | 21 | 56 | 10 |  |
| -09S | 9 | 18.5 | 52 | 22 | 62 | 10 |  |
| -10S | 10 | 18.5 | 52 | 22 | 62 | 10 |  |
| -12S | 12 | 22 | 54 | 22 | 99 | 10 |  |
|  |  |  |  |  |  |  | WERTIIT |



-3/8"sq. LONG HEX. BIT SOCKET SET


| HEX. BIT SOCKET |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | $\nabla \mathrm{g}$ | $\oplus$ |  |
| BT3-03 | 3 | 17 | 61 | 32 | 43 | 10 |  |
| -04 | 4 | 17 | 61 | 32 | 43 | 10 |  |
| -05 | 5 | 17 | 66 | 37 | 46 | 10 |  |
| -06 | 6 | 17 | 66 | 37 | 46 | 10 |  |
| -07 | 7 | 18.5 | 71 | 42 | 65 | 10 |  |
| -08 | 8 | 18.5 | 71 | 42 | 65 | 10 |  |
| -09 | 9 | 18.5 | 73 | 43 | 76 | 10 |  |
| -10 | 10 | 18.5 | 73 | 43 | 76 | 10 |  |
| -12 | 12 | 22 | 76 | 44 | 121 | 10 |  |
|  |  |  |  |  |  |  |  |
| HEX. BIT SOCKET |  |  |  |  |  |  |  |
| No. | S | D | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| BT3-1/8 | 3.1 | 17 | 61 | 32 | 43 | 10 |  |
| $-9 / 64$ | 3.5 | 17 | 61 | 32 | 43 | 10 |  |
| $-5 / 32$ | 3.9 | 17 | 61 | 32 | 43 | 10 |  |
| -3/16 | 4.7 | 17 | 61 | 32 | 43 | 10 |  |
| -7/32 | 5.5 | 17 | 66 | 37 | 46 | 10 |  |
| -1/4 | 6.3 | 17 | 66 | 37 | 46 | 10 |  |
| $-5 / 16$ | 7.9 | 18.5 | 71 | 42 | 65 | 10 |  |
| -3/8 | 9.5 | 18.5 | 73 | 43 | 76 | 10 |  |
| -7/16 | 11.1 | 22 | 76 | 44 | 121 | 10 |  |

- Bit replacement is possible. (Refer to P.105) FOWERTMT

| HEX. BIT SOCKET SET (6pcs.) . (9pcs.) . (10pcs.) mm . in |  |  |
| :---: | :---: | :---: |
| No. TBT306H | Vg 405 | E日 1 |
| Hexagon bit socket (3/8"sq.) mm |  | BT3-04,05,06,08,10 |
| Cross bit socket |  | BT3-2P |
| Socket holder |  | EHB306 |
| No. TBT310H | Vg 745 | ¢ 1 |
| Hexagon bit socket (3/8"sq.) |  | ВТЗ-03,04,05,06,07,08,09,10,12 |
| Cross bit socket |  | BT3-2P |
| Socket holder |  | EHB310 |
| No. TBT309BH | Vg 645 | \& 1 |
| Hexagon bit socket (3/8"sq.) in |  | ВТ $3-1 / 8,9 / 64,5 / 32,3 / 16,7 / 32,1 / 4,5 / 16,3 / 8,7 / 16$ |
| Socket holder |  | EHB310 |

LONG HEX. BIT SOCKET

|  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\boldsymbol{\ell}$ | $\boldsymbol{\nabla}$ g | ¢ |  |
| BT3-03L | 3 | 17 | 128 | 99 | 61 | 10 |  |
| -04L | 4 | 17 | 128 | 99 | 61 | 10 |  |
| -05L | 5 | 17 | 128 | 99 | 62 | 10 |  |
| -06L | 6 | 17 | 128 | 99 | 63 | 10 |  |
| -07L | 7 | 18.5 | 128 | 99 | 89 | 10 |  |
| -08L | 8 | 18.5 | 128 | 99 | 89 | 10 |  |
| -09L | 9 | 18.5 | 128 | 98 | 113 | 10 |  |
| -10L | 10 | 18.5 | 128 | 98 | 113 | 10 |  |
| -12L | 12 | 22 | 128 | 96 | 172 | 10 |  |


| LONG HEX. BIT SOCKET |  |  |  |  |  |  | in |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| BT3-1/8 L | 3.1 | 17 | 128 | 99 | 61 | 10 |  |
| $-9 / 64 \mathrm{~L}$ | 3.5 | 17 | 128 | 99 | 61 | 10 |  |
| $-5 / 32 L$ | 3.9 | 17 | 128 | 99 | 61 | 10 |  |
| $-3 / 16 \mathrm{~L}$ | 4.7 | 17 | 128 | 99 | 62 | 10 |  |
| $-7 / 32 \mathrm{~L}$ | 5.5 | 17 | 128 | 99 | 63 | 10 |  |
| $-1 / 4 \mathrm{~L}$ | 6.3 | 17 | 128 | 99 | 63 | 10 |  |
| $-5 / 16 \mathrm{~L}$ | 7.9 | 18.5 | 128 | 99 | 89 | 10 |  |
| $-3 / 8 \mathrm{~L}$ | 9.5 | 18.5 | 128 | 98 | 113 | 10 |  |
| $-7 / 16 \mathrm{~L}$ | 11.1 | 22 | 128 | 96 | 172 | 10 |  |


| LONG HEX. BIT SOCKET SET (9pcs.) | mm. in |
| :---: | :---: |
| No. TBT3L09H $\quad$ Vg 945 | ¢ 1 |
| Long hexagon bit socket (3/8"sq.) mm | BT3-03L,04L,05L,06L,07L,08L,09L,10L,12L |
| Socket holder | EHB310 |
| No. TBT3L09BH $\quad$ Vg 865 | \& 1 |
| Long hexagon bit socket (3/8"sq.) in | $\begin{aligned} & \mathrm{BT} 3-1 / 8 \mathrm{~L}, 9 / 64 \mathrm{~L}, 5 / 32 \mathrm{~L}, 3 / 16 \mathrm{~L}, 7 / 32 \mathrm{~L}, 1 / 4 \mathrm{~L}, \\ & 5 / 16 \mathrm{~L}, 3 / 8 \mathrm{~L}, 7 / 16 \mathrm{~L} \end{aligned}$ |
| Socket holder | EHB310 |


$\bigwedge^{\text {caution }}$. Care should be taken not to force this piece as the torque limit of the ball point is low.
-3/8"sq. LONG BALL POINT HEX. BIT SOCKET SET (6pcs.) • (7pcs.)

Power Fit

-3/8"sq. IMPACT HEX. WRENCH SET (6pcs.)

-1/2"sq. CROSS • FLAT BIT SOCKET

| No. | Number | D | L | $\ell$ | $\boldsymbol{\nabla}$ | $\epsilon ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT4-2P | No.2 | 22 | 70 | 37 | 73 | 10 |  |
| -3P | No.3 | 22 | 75 | 42 | 82 | 10 |  |


| No. |
| :--- |
| BT4-6M |
| ( 1.0 |
| Bit replacement is possible. (Refer to P.105) |





| LONG BALL POINT HEX. BIT SOCKET |
| :--- |
| No. |
| BT4-05BPL |
| -06BPL |
| -07BPL |
| -08BPL |

$\bigwedge^{\text {caution }} \cdot$ Care should be taken not to force this piece as the torque limit of the ball point is low.
-1/2"sq. LONG BALL POINT HEX. BIT SOCKET


HICH GRADE L-SHAPED STANDARD HEX-KEY WRENCH SET (8pcs.) • (9pcs.)
-HIGH GRADE L-SHAPED STANDARD HEX-KEY WRENCH SET (8 • 9pcs.)
No. HLD1009 $\quad$ Vg $260 \quad \oplus \in 5$

High Grade L-Shaped Standard Hex-key Wrench HLD100-1.5, 2, 2.5, 3, 4, 5, 6, 8, 10
No. HLD1008 $\quad$ Vg $150 \quad \oplus \in 5$

High Grade L-Shaped Standard Hex-key Wrench HLD100-1.5, 2, 2.5, 3, 4, 5, 6, 8 Common ltems
Holder

- High grade hard chrome plating for better feeling. appearance and rust-resistance
- Made of special alloy steel for better wear-resistance \& torque strength.
- Can apply high torque due to balanced hardness and flexibility processed by "state of
the art" heat-treatment technique.
- With original holder for carrying and tool management.
*The holder is provided as a replaceable part. Check with your dealer for details.
$\wedge^{\text {caution }} \cdot$ APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF ! YOU RAISE IT OR PUSH IT DOWN, IT MAY BREAK AT THE BEND.

| HIGH GRADE L-SHAPED STANDARD HEX-KEY WRENCH |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | L | $\ell$ | Vg | $\oplus$ |  |
| HLD100-1.5 | 1.5 | 53 | 13 | 1 | 10 |  |
| - 2 | 2 | 60 | 14 | 1 | 10 |  |
| - 2.5 | 2.5 | 62 | 17 | 3 | 10 |  |
| - 3 | 3 | 68 | 23 | 5 | 10 |  |
| - 4 | 4 | 76 | 29 | 10 | 10 |  |
| - 5 | 5 | 85 | 33 | 17 | 10 |  |
| - 6 | 6 | 96 | 38 | 30 | 10 |  |
| - 8 | 8 | 110 | 44 | 60 | 10 |  |
| -10 | 10 | 120 | 50 | 105 | 10 |  |
| -12 | 12 | 135 | 57 | 170 | 10 |  |
| -14 | 14 | 155 | 69 | 270 | 10 |  |

OHIGH GRADE L-SHAPED STANDARD HEX-KEY WRENCH


| HIGH GRADE L-SHAPED LONG HEX-KEY WRENCH SET (8pcs.) • (9pcs.) |  | mm |
| :---: | :---: | :---: |
| No. HLD1509 Vg 450 | Vg $450 \quad$ ¢ 5 |  |
| High Grade L-Shaped Long Hex-key Wrench | ey Wrench HLD150-1.5, 2, 2.5, 3, 4, |  |
| No. HLD1508 Vg 245 | Fg 245 ¢ص 5 |  |
| High Grade L-Shaped Long Hex-key Wrench | ey Wrench HLD150-1.5, 2, 2.5, 3, 4, |  |
| Common liems |  |  |
| Holder |  |  |
| - High grade hard chrome plating for better feeling. appearance and rust-resistance <br> - Made of special alloy steel for better wear-resistance \& torque strength. <br> - Can apply high torque due to balanced hardness and flexibility processed by "state of the art" heat-treatment technique. <br> - With original holder for carrying and tool management. <br> * The holder is provided as a replaceable part. Check with your dealer for details. |  |  |
|  |  |  |

-HIGH GRADE L-SHAPED LONG HEX-KEY WRENCH SET (8•9pcs.)

(CAUTION $\cdot$ APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF YOU RAISE IT OR PUSH IT DOWN, IT MAY BREAK AT THE BEND
－HIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH SET（9pcs．）


HIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH SET（9pcs．）
No．HLD2009 $\quad$ g 250 ध 5

High Grade L－Shaped Standard Hex－key Wrench HLD100－1．5，2，2．5，3，4，5，6，8， 10 Holder
－Made of special alloy steel for better wear－resistance \＆torque strength．
－With original holder for carrying and tool management．
－The hexagon ends fit into hexagon bolts more tightly for less wear \＆tear．
－The holder is provided as a replaceable part．Check with your dealer for details．
caution．Care should be taken not to force this piece as the torque limit of the ball point is low． －Oscillation angle of ball point depends on the size of bolts
－Apply force in the direction of the bolt rotation．If you raise it or push it down，it may break at the bend．

OHIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH

－HIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH SET（9pcs．）

OHIGH GRADE L－SHAPED LONG HEX－KEY WRENCH


| HIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | L | \＆ | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| HLD200－1．5 | 1.5 | 53.5 | 13.5 | 1 | 10 |  |
| － 2 | 2 | 60 | 14 | 1 | 10 |  |
| － 2.5 | 2.5 | 62.5 | 17.5 | 3 | 10 |  |
| － 3 | 3 | 68 | 23 | 5 | 10 |  |
| － 4 | 4 | 76 | 29 | 8 | 10 |  |
| － 5 | 5 | 85 | 33 | 18 | 10 |  |
| － 6 | 6 | 96 | 38 | 30 | 10 |  |
| － 8 | 8 | 108 | 44 | 60 | 10 |  |
| －10 | 10 | 122 | 50 | 100 | 10 |  |

$\lambda^{\text {caution．Care should be taken not to force this piece as the torque limit of the ball point is low．}}$ ！－Oscillation angle of ball point depends on the size of bolts
－Apply force in the direction of the bolt rotation．If you raise it or push it down，it may break at the bend．

| HIGH GRADE L－SH | BALL POINT HEX－KEY WRENCH SET（9pcs．） | mm |
| :---: | :---: | :---: |
| No．HLDS2009 | Vg 220 e日 5 |  |

High Grade L－Shaped Standard Hex－key Wrench HLDS200－1．5，2，2．5，3，4，5，6，8， 10 Holder
－Made of special alloy steel for better wear－resistance \＆torque strength．
－With original holder for carrying and tool management．
－The hexagon ends fit into hexagon bolts more tightly for less wear \＆tear
The holder is provided as a replaceable part．Check with your dealer for details
caution－Care should be taken not to force this piece as the torque limit of the ball point is low －Oscillation angle of ball point depends on the size of bolts
－Apply force in the direction of the bolt rotation．If you raise it or push it down，it may break at the bend．

| HIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | L | \＆ | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| HLDS200－1．5 | 1.5 | 53.5 | 7.5 | 1 | 10 |  |
| － 2 | 2 | 60 | 9 | 1 | 10 |  |
| － 2.5 | 2.5 | 62.5 | 10.5 | 2.5 | 10 |  |
| － 3 | 3 | 68 | 12 | 4 | 10 |  |
| － 4 | 4 | 76 | 15 | 7 | 10 |  |
| － 5 | 5 | 85 | 17 | 16 | 10 |  |
| － 6 | 6 | 96 | 20 | 25 | 10 |  |
| － 8 | 8 | 108 | 24 | 55 | 10 |  |
| －10 | 10 | 122 | 29 | 95 | 10 |  |

！caution．Care should be taken not to force this piece as the torque limit of the ball point is low． Ascllation angle of ball point depends on the size
－Apply force in the direction of the bolt rotation．If you raise it or push it down，it

| HICH GRADE L－SHAPED LONG HEX－KEY WRENCH <br> No． S |
| :--- |
| HLD150－1．5 |


| HICH GRADE L－SHAPED LONG BALL POINT HEX－KEY WRENCH SET（8pcs．）•（9pcs．） |  |  |
| :--- | :--- | :--- |
| No．HLD2509 | $\nabla \mathrm{g} \mathrm{445}$ | $\epsilon \mathrm{f} 5$ |
| Hexagon Wrench |  | HLD250－1．5，2，2．5，3，4，5，6，8， 10 |
| No．HLD2508 | $\nabla \mathrm{g} \mathrm{245}$ | $\oplus 5$ |
| Hexagon Wrench |  | HLD250－1．5，2，2．5，3，4，5，6，8 |
| Common Items |  |  |
| Holder |  |  |

－Made of special alloy steel for better wear－resistance \＆torque strength．
－With original holder for carrying and tool management
Cauroon• DO NOT EXTEND WITH PIPES，ETC
$4 \square^{\text {amoun }}$ ．DO NOT APPLY EXCESSIVE POWER ON THE BALL POINTS．

| HIGH GRADE L-SHAPED LONG BALL POINT HEX-KEY WRENCH |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | L | $\ell$ | $\nabla \mathrm{g}$ | Ef |  |
| HLD250-1.5 | 1.5 | 81 | 18 | 1 | 10 |  |
| - 2 | 2 | 97 | 19 | 3 | 10 |  |
| - 2.5 | 2.5 | 113 | 21 | 5 | 10 |  |
| - 3 | 3 | 130 | 23 | 8 | 10 |  |
| - 4 | 4 | 145 | 29 | 17 | 10 |  |
| - 5 | 5 | 165 | 33 | 30 | 10 |  |
| - 6 | 6 | 185 | 38 | 50 | 10 |  |
| - 8 | 8 | 210 | 44 | 105 | 10 |  |
| -10 | 10 | 235 | 50 | 180 | 10 |  |

- The hexagon ends fit into hexagon bolts more tightly for less wear \& tear.
caution • DO NOT EXTEND WITH PIPES, ETC


| HICH GRADE L-SHAPED LONG BALL POINT HEX-KEY WRENCH . SET(9pcs.) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. HLD2509B |  | Vg 400 | ¢¢ 10 |  |  |  |
| Hexagon Wrench in |  |  | $\begin{gathered} \text { HLD250-1/16, } 5 / 64,3 / 32,1 / 8,5 / 32, \\ 3 / 16,1 / 4,5 / 16,3 / 8 \end{gathered}$ |  |  |  |
| Holder |  |  |  |  |  |  |
| No. | S | L | $\ell$ | $\nabla \mathrm{g}$ | ¢¢ |  |
| HLD250-1/16 | 1.5 | 81 | 17 | 1 | 10 |  |
| -5/64 | 1.9 | 95 | 19 | 3 | 10 |  |
| -3/32 | 2.3 | 110 | 20 | 5 | 10 |  |
| -7/64 | 2.7 | 119 | 21 | 7 | 10 |  |
| -1/8 | 3.1 | 129 | 23 | 8 | 10 |  |
| $-9 / 64$ | 3.5 | 134 | 27 | 15 | 10 |  |
| -5/32 | 3.9 | 144 | 29 | 17 | 10 |  |
| -3/16 | 4.7 | 163 | 33 | 30 | 10 |  |
| -7/32 | 5.5 | 174 | 36 | 40 | 10 |  |
| -1/4 | 6.3 | 184 | 38 | 50 | 10 |  |
| $-5 / 16$ | 7.9 | 206 | 44 | 105 | 10 |  |
| -3/8 | 9.5 | 232 | 50 | 180 | 10 |  |

- The tool allows a diagonal rotating operation up to 25 degrees, facilitating access in confined spaces.
- The tool with a new and unique design that can be employed for the tightening process.
- Anti-wear and warping characteristics have been improved through employing a special steel alloy.
- The high quality chrome galvanized finish provides a good texture while being aesthetically attractive and rust resistant
$\rfloor^{\text {caution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE BALL POINTS.
hich Grade l-shaped long ball point hex-key wrench set (9pcs.)

No. HLDS2509
High Grade L-Shaped
Long Ball Point Hex-Key Wrench Set
Holder

- New original design that can be used in final tightening. Wear resistance and twist strength have been improved with the adoption of special steel alloy.
- Original plastic holder that's convenient in carrying and tool management
- Abrasion and deformation are reduced with the design that enlarged the contact surface for the hex. on the tip to fit on the hex. hole of the bolt perfectly.
- With about $1 / 2$ the under-neck length of conventional products, it is effective for work in narrow spaces.
- Bending angle of the under-neck part is set at $95^{\circ}$, ensuring the space for the fingertip.
* Holder is configured as a spare part. Please contact your dealer for details.
$\lambda^{\text {caution } \cdot \text { Since the ball point has a low torque limit, please be careful not to apply too }}$ much force.
- Swing angle of the ball point will vary depending on the variation in the size and bolt.
Please apply force in the rotation direction of the bolt. There is a risk of damage from the bent part if excessively pulled up or pushed down.

| HIGH GRADE L-SHAPED BALL POINT HEX-KEY WRENCH |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | L | $\ell$ | Vg | ¢ $¢$ |  |
| HLDS250-1.5 | 1.5 | 80.5 | 5.5 | 1 | 10 |  |
| HLDS250-2 | 2 | 97 | 7 | 2.5 | 10 |  |
| HLDS250-2.5 | 2.5 | 112.5 | 8.5 | 4 | 10 |  |
| HLDS250-3 | 3 | 129 | 11 | 7 | 10 |  |
| HLDS250-4 | 4 | 146 | 13 | 15 | 10 |  |
| HLDS250-5 | 5 | 165 | 16 | 28 | 10 |  |
| HLDS250-6 | 6 | 186 | 19 | 45 | 10 |  |
| HLDS250-8 | 8 | 208 | 24 | 100 | 10 |  |
| HLDS250-10 | 10 | 230 | 28 | 165 | 10 |  |

$1!^{\text {cautio }}$

- Since the ball point has a low torque limit, please be careful not to apply too much force.
Swing angle of the ball point will vary depending on the variation in the size and bolt.
Please apply force in the rotation direction of the bolt. There is a risk of damage from the bent part if excessively pulled up or pushed down.
-HIGH GRADE L-SHAPED LONG BALL POINT HEX-KEY WRENCH


OHIGH GRADE L-SHAPED LONG BALL POINT HEX-KEY WRENCH. SET (9pcs.)


OHIGH GRADE L-SHAPED LONG BALL POINT HEX-KEY WRENCH SET (9pcs.)

-HIGH GRADE L-SHAPED BALL POINT HEX-KEY WRENCH


OHIGH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH．SET（9pcs．）

| HICH GRADE L－SHAPED STANDARD BALL POINT HEX－KEY WRENCH ．SET（9pcs．） |  |  |  |
| :---: | :---: | :---: | :---: |
| No．HLD2009B | Vg 235 | E¢ 10 |  |
| L－Shaped Ball Po | nch in |  |  |

Holder

| No． | S | L | $\ell$ | $\nabla \mathrm{g}$ | ¢¢ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HLD200－1／16 | 1.5 | 48 | 15 | 1 | 10 |
| $-5 / 64$ | 1.9 | 52 | 16 | 1 | 10 |
| －3／32 | 2.3 | 58 | 19 | 1 | 10 |
| －7／64 | 2.7 | 61 | 21 | 3 | 10 |
| －1／8 | 3.1 | 63 | 23 | 3 | 10 |
| －9／64 | 3.5 | 69 | 26 | 5 | 10 |
| －5／32 | 3.9 | 72 | 28 | 10 | 10 |
| －3／16 | 4.7 | 80 | 30 | 15 | 10 |
| －7／32 | 5.5 | 87 | 33 | 20 | 10 |
| －1／4 | 6.3 | 94 | 36 | 30 | 10 |
| －5／16 | 7.9 | 106 | 42 | 60 | 10 |
| － $3 / 8$ | 9.5 | 120 | 47 | 105 | 10 |

[^2] spaces．
－The tool with a new and unique design that can be employed for the tightening process． －Anti－wear and warping characteristics have been improved through employing a specia steel alloy．
－The high quality chrome galvanized finish provides a good texture while being aesthetically attractive and rust resistant．
$\rfloor^{\text {caution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE BALL POINTS．
oL－SHAPED HEX－KEY WRENCH SET（7pcs．）


OL－SHAPED LONG BALL POINT HEX－KEY WRENCH SET（9pcs．）


| L－SHAPED HEX－KEY WRENCH SET（7pcs．） |  |  | mm |
| :---: | :---: | :---: | :---: |
| No．HL107 |  | Vg 250 | \＆ 10 |
| L－Shaped Hex－key Wrench |  |  | $2.5,3,4,5,6,8,10$ |
| Holder |  |  |  |
| －These products are not sold individually． |  |  |  |
| S | L | $\ell$ |  |
| 2.5 | 57 | 20 |  |
| 3 | 65 | 23 |  |
| 4 | 77 | 27 | CAUTION．APPLY FORCEIN THE |
| 5 | 83 | 32 | ！．DIRECTION OF THE BOLT |
| 6 | 95 | 38 | ROTATION．IF YOU RAISE IT |
| 8 | 100 | 42 | BREAK AT THE BEND． |
| 10 | 122 | 50 |  |

## L－SHAPED LONG BALL POINT HEX－KEY WRENCH SET（Ppes．） <br> No．HL259BSP $\quad$ gg 420 ध 10

L－Shaped Long Ball Point Hex－Key Wrench 1／16，5／64，3／32，1／8，5／32，3／16，1／4，5／16，3／8 Holder
－It is convenient in detaching bolts with hexagonal hole in deep places．
－It can be turned diagonally．
${ }^{*}$ This product is not sold in the single wrench unit．

| $\mathbf{S}(\mathrm{in})$ | $\mathbf{L}$ | $\ell$ |
| :---: | :---: | :---: |
| $1 / 16$ | 92 | 16 |
| $5 / 64$ | 102 | 18 |
| $3 / 32$ | 115 | 21 |
| $1 / 8$ | 130 | 24 |
| $5 / 32$ | 144 | 29 |
| $3 / 16$ | 165 | 33 |
| $1 / 4$ | 187 | 39 |
| $5 / 16$ | 208 | 44 |
| $3 / 8$ | 234 | 50 |

caution－Since the ball point has a low torque limit，please be careful not to apply too much force．
Swing angle of the ball point will vary depending on the variation in the size and bolt．
Please apply force in the rotation direction of the bolt．There is a risk of damage from the bent part if excessively pulled up or pushed down．



## FOLDING HEX-KEY WRENCH

OFOLDING HEX-KEY WRENCH
No. HLH8
1.5, 2, 2.5, 3, 4. 5, 6,

- For $1.5 \sim 8 \mathrm{~mm}$ sizes
- Plastic body which is light and helps your grasp
* Replaceable parts are provided. Check with your dealer for details
$\int^{\text {CAUTION }}$ - APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF YOU RAISE IT OR PUSH IT DOWN, IT


| T-SHAPED HEX. WRENCH |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | L | $\ell 1$ | $\ell_{2}$ | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| HT10-2.5 | 2.5 | 150 | 105 | 86 | 22 | 10 |  |
| - 3 | 3 | 150 | 105 | 86 | 25 | 10 |  |
| - 4 | 4 | 190 | 135 | 105 | 40 | 10 |  |
| - 5 | 5 | 190 | 135 | 105 | 50 | 10 |  |
| - 6 | 6 | 230 | 165 | 130 | 80 | 10 |  |
| - 8 | 8 | 230 | 165 | 130 | 115 | 10 |  |
| -10 | 10 | 230 | 165 | 130 | 170 | 10 |  |

- For use on hexagon bolts in confined spaces.
- Suitable for quick turning
$\lambda^{\text {CAUTION } \cdot \text { APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF YOU RAISE IT OR }}$
$!$ ! PUSH IT DOWN, IT MAY BREAK AT THE BEND.

-T-SHAPED HEX. WRENCH


| T-SHAPED HEX. WRENCH |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | $\ell$ | L | D | Vg | ¢ $¢$ |  |
| HTH-4 | 4 | 130 | 225 | 9 | 160 | 10 |  |
| -5 | 5 | 160 | 230 | 11 | 265 | 10 |  |
| -6 | 6 | 180 | 230 | 11 | 280 | 10 |  |
| -8 | 8 | 180 | 235 | 13 | 395 | 10 |  |

- For use on hexagon bolts in confined spaces.
- Suitable for quick turning
caution • APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF YOU RAISE IT OR
$\therefore$ caution - APPLY FORCE IN THE DIRECTION OF THE BOL


## T-SHAPED HEX. WRENCH



OPLASTIC GRIP HEX. DRIVER SET (5pcs.) (8pcs.) (10pcs.) драт.


TD1H8


OPLASTIC GRIP BALL POINT HEX. DRIVER SET (5pcs.) (8pcs.) (10pcs.) р. рат.


TD1HBP8


| PLASTIC GRIP HEX. DRIVER SET | mm . in |
| :---: | :---: |
| No. TD1H5 Vg 650 | $\oplus 1$ |
| Plastic Grip Hex. Driver Set (5pcs.) | D1H-025, 03, 04, 05, 06 |
| No. TD1H8 $\quad$ Vkg 1.1 | ¢ 1 |
| Plastic Grip Hex. Driver Set (8pcs.) | D1H-015,02,025,03, 04, 05, 06,08 |
| No. TD1H10B $\quad$ Vkg 1.3 | ¢ 1 |
| Plastic Grip Hex. Driver Set (10pcs.) in | $\begin{gathered} \text { D1H- } 1 / 16,5 / 64,3 / 32,1 / 8,9 / 64,5 / 32, \\ 3 / 16,7 / 32,1 / 4,5 / 16 \end{gathered}$ |


| PLASTIC GRIP HEX. DRIVER |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{S}_{1}$ | $\mathrm{S}_{2}$ | D | L | $\ell$ | Vg | $\oplus$ |  |
| D1H-015 | 1.5 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -02 | 2 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -025 | 2.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -03 | 3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -04 | 4 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -05 | 5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -06 | 6 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -08 | 8 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |


| PLASTIC GRIP HEX. DRIVER in |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{S}_{1}$ | $\mathrm{S}_{2}$ | D | L | $\ell$ | Vg | ¢ $\oplus$ |  |
| D1H-1/16 | 1.5 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -5/64 | 1.9 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -3/32 | 2.3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -1/8 | 3.1 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -9/64 | 3.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -5/32 | 3.9 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -3/16 | 4.7 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -7/32 | 5.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -1/4 | 6.3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -5/16 | 7.9 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |


| PLAStic Grip ball point hex. DRIVER SET | mm. in |
| :---: | :---: |
| No. TD1HBP5 $\quad$ g 650 | $\oplus 1$ |
| Plastic Grip Ball Point Hex. Driver Set (5pcs.) | D1H-025BP,03BP,04BP,05BP,06BP |
| No. TD1HBP8 $\quad$ Vkg 1.1 | $\oplus 1$ |
| Plastic Grip Ball Point Hex. Driver Set (8pcs.) | D1H-015BP, 02BP, 025BP, 03BP, 04BP, 05BP, 06BP, 08BP |
| No. TD1HBP10B $\quad$ Vkg 1.3 | $\oplus 1$ |
| Plastic Grip Ball Point Hex. Driver Set (10pcs.) in | $\begin{gathered} \mathrm{D} 1 \mathrm{H}-1 / 16 \mathrm{BP}, 5 / 64 \mathrm{BP}, 3 / 32 \mathrm{BP}, 1 / 8 \mathrm{BP}, \\ 9 / 64 \mathrm{BP}, 5 / 32 \mathrm{BP}, 3 / 16 \mathrm{BP}, \\ 7 / 32 \mathrm{BP}, 1 / 4 \mathrm{BP}, 5 / 16 \mathrm{BP} \end{gathered}$ |


| PLASTIC GRIP BALL POINT HEX. DRIVER |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{S}_{1}$ | $\mathrm{S}_{2}$ | D | L | $\ell$ | Vg | $\oplus$ |  |
| D1H-015BP | 1.5 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -02BP | 2 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -025BP | 2.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -03BP | 3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -04BP | 4 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -05BP | 5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -06BP | 6 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -08BP | 8 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |

PLASTIC GRIP BALL POINT HEX. DRIVER

| No. | S 1 | $\mathrm{S}_{2}$ | D | L | $\ell$ | Vg | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1H-1/16 BP | 1.5 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -5/64BP | 1.9 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| $-3 / 32 \mathrm{BP}$ | 2.3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| $-1 / 8$ BP | 3.1 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -9/64BP | 3.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -5/32 BP | 3.9 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -3/16 BP | 4.7 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| $-7 / 32 \mathrm{BP}$ | 5.5 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| $-1 / 4 \mathrm{BP}$ | 6.3 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -5/16 BP | 7.9 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |

List of applications for 21st Century Version Tool-bit socket replacement bit
*Caution: there is no compatibility with tools other than the 21st Century Version Tools.






| ■Long ball point hexagon bit socket |  |  |  | $\frac{s_{2}}{\mid-1}$ |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | L |  |
| Applied product number |  |  | Replacement bit product number |  | $\mathrm{S}_{1}$ | $\mathrm{S}_{2}$ | L | Type |  |
| (1/4" | 3/8" sq. | (1/2" |  |  |  |  |  |  |
| BT2-03BPL | BT3 -03BPL |  | T-03BPL | 3 | 6.3 | 108 | A |  |
| -04BPL | -04BPL |  | -04BPL | 4 | 6.3 | 108 | A |  |
| -05BPL | -05BPL | BT4-05BPL | -05BPL | 5 | 6.3 | 108 | A |  |
| -06BPL | -06BPL | -06BPL | -06BPL | 6 | 6.3 | 108 | A |  |
|  | -07BPL | -07BPL | -07BPL | 7 | 8 | 108 | B |  |
|  | -08BPL | -08BPL | -08BPL | 8 | 8 | 108 | B |  |

mm


| ■Hexagon bit (long) |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Applied product number |  |  | Replacement bit product number | $\mathrm{S}_{1}$ | S2 | L | Type |  |
| 1/4". | 3/8" | 1/2" |  |  |  |  |  |  |
| BT2-03L | BT3-03L |  | T-03L | 3 | 6.3 | 108 | A |  |
| -04L | -04L |  | -04L | 4 | 6.3 | 108 | A |  |
| -05L | -05L | BT4-05L | -05L | 5 | 6.3 | 108 | A |  |
| -06L | -06L | -06L | -06L | 6 | 6.3 | 108 | A |  |
|  | -07L | -07L | -07L | 7 | 8 | 108 | B |  |
|  | -08L | -08L | -08L | 8 | 8 | 108 | B |  |
|  | -09L | -09L | -09L | 9 | 10 | 108 | B |  |
|  | -10L | -10L | -10L | 10 | 10 | 108 | B |  |
|  | -12L | -12L | -12L | 12 | 12 | 108 | B |  |
|  |  | -14L | -14L | 14 | 14 | 108 | B |  |
|  |  | -17L | -17L | 17 | 17 | 108 | B |  |

## n


$\frac{\mathrm{S}_{2}}{\frac{1}{4}}$


| Applied product number |  |  | Replacement bit product number | $\mathrm{S}_{1}$ | $\mathrm{S}_{2}$ | L | Type |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1/4" ${ }_{\text {sq. }}$ | (3/8" |  |  |  |  |  |  |  |
| BT2 $21 / 8 \mathrm{BPL}$ | BT3-1/8 BPL |  | T. $1 / 8 \mathrm{BPL}$ | 3.1 | 6.3 | 108 | A |  |
| $\bigcirc / 64 \mathrm{BPL}$ | $\cdots / 64$ BPL |  | $\therefore / 64 \mathrm{BPL}$ | 3.6 | 6.3 | 108 | A |  |
| $\checkmark 533 \mathrm{BPL}$ | $-5 / 32 \mathrm{BPL}$ |  | $.5 / 32 \mathrm{BPL}$ | 3.9 | 6.3 | 108 | A |  |
| - $3 / 16 \mathrm{BPL}$ | $\cdots / 16 \mathrm{BPL}$ | BT4-3/16 BPL | $\bigcirc / 16 \mathrm{BPL}$ | 4.7 | 6.3 | 108 | A |  |
| $\bigcirc / 32 \mathrm{BPL}$ | $\bigcirc 1 / 32 \mathrm{BPL}$ | $.^{7} / 32 \mathrm{BPL}$ | $.^{7} / 32 \mathrm{BPL}$ | 5.5 | 6.3 | 108 | A |  |
| $-1 / 4 \mathrm{BPL}$ | $\therefore 1 / 4 \mathrm{BPL}$ | $\therefore 1 / 4 \mathrm{BPL}$ | $\therefore 1 / 4 \mathrm{BPL}$ | 6.3 | 6.3 | 108 | A |  |
|  | $\cdots / 16 \mathrm{BPL}$ | ${ }^{-} / 16 \mathrm{BPL}$ | . $6 / 16 \mathrm{BPL}$ | 7.9 | 7.9 | 108 | B |  |

## 2. CONVENTIONAL TOOLS

## TORX® WRENCHES

$10 \mathrm{XX}^{\circledR}$ is a registered trademark for the Textron Fastening Systems.


CAUTION

## TORX ${ }^{\circledR}$ wrench sets <br> - Carefully read the individual safety warnings for the items included within the set. <br> When carrying the set, make sure the meta fasteners are locked on.

## TORX ${ }^{\circledR}$ wrenches

- Use wrenches that conform to the size of the tip standards.
Do not use by adding on pipes, etc.
- Make sure that the bolt is fully inserted.

Do not expose this tool to impact by hitting
Fully i hammer, etc.

- Fully insert the angle drive

Do not use with power tools, such as impact wrenches, etc.

- Do not twist using the tip.
- Take care to avoid over-applying force for the smaller sizes.
Do not drop or expose to strong impact


## The $\mathbf{T O R X}^{\circledR}$ Standards

The TORX® ${ }^{\circledR}$ standards were developed by the American firm Camcar. The curved bolt head and tool contact surface is the main characteristic, and is mainly divided into the $T$ type and $E$ type. standardized for their exceptional performance. They are employed globally for automobiles and industrial machines, and in Japan, the tools are widely distributed in each field as the necessary tool for the discerning professional.
As the name TORX ${ }^{\circledR}$ is a registered trademark of Textron Fastening Systems, the tools are generally called "hex-lobe" (meaning 6 ear lobes) wrenches.
KTC receives licensing and technological training from Textron Fastening Systems, enabling the approved, formal usage of the product name TORX ${ }^{\text {® }}$.

## Functions

High durability and torque transmission efficiency Torque transmission is improved through greater facial contact of the tool with bolt heads compared to previous bolt head styles. Durability is increased through a lower concentration of stress, which reduces wear and breakage.
High operational performance
When tightening Phillips screws, the screw must not only be turned but also pushed in (a force that sustains the screw in the set position). However, the TORX ${ }^{\circledR}$ design allows for stabilizing of the bolt head and the contact surface of the tool, enabling the screw to be tightened through turning only and without applying force. This reduces the physical stress of the user, increases operational efficiency, and increases tool and screw durability.


E type TORX $^{\circledR}$ screw


E type TORX® wrench


The tamper resistant TORX ${ }^{\circledR}$
The screw with the round protrusion of the T type TORX ${ }^{\circledR}$ screw is called the "tamper resistant TORX ${ }^{\circledR}$ screw" The "tamper resistant TORX ${ }^{\circledR}$ screw" is used in places where disassembly should be avoided by nonprofessionals. This screw is widely employed for internal components of mobile phones and computers mobile phones and computers.
Recently, this screw has been used in automobile applications, such as air bags and seat belts. professionals. This screw is widely


| List of TORX® wrench sizes <br> T type TORX® wrench |  |  | *The "A" dimensions and "bolt diameter" within the table below are guidelines that indicate the size of the TORX ${ }^{\circledR}$ screw and the corresponding TORX ${ }^{\circledR}$ tool. Select the most appropriate (tightly matching and without space for movement) TORX ${ }^{\circledR}$ tool for the TORX ${ }^{\circledR}$ screw before use. <br> *The "A" dimensions are the tool standards indicated by Textron Fastening Systems which do not completely match the actual dimensions of the product. Also, the corresponding "bolt diameter" with the "designation" are examples illustrating general TORX ${ }^{\circledR}$ screws. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Designation T6 | T8 | T9 | T10 | T15 | T20 | T25 | T27 | T30 | T40 | T45 | T50 | T55 | T60 | T70 |
|  |  |  | "A" dimensions 1.65 | 2.30 | 2.48 | 2.72 | 3.26 | 3.84 | 4.40 | 4.96 | 5.49 | 6.60 | 7.77 | 8.79 | 11.17 | 13.20 | 15.49 |
|  | Designation symbols | Drive | Bolt diameter M2 | M2.5 | - | M3 | M3.5 | M4 | M5 | M5 | M6 | M8 | M8 | M10 | M12 - 14 | M16 | M18 |
| T type TORX ${ }^{\circledR}$ bit socket | BT2-T* | (1/4" | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | - | $\bigcirc$ | - | - | - |  |  |  |  |  |  |
| T type TORX ${ }^{\circledR}$ bit socket | BT3-T* | $\begin{gathered} 3 / 8^{1 "} \\ \text { sq. } \end{gathered}$ |  |  |  |  |  | - | - | $\bigcirc$ | - | - | $\bigcirc$ | - | $\bigcirc$ |  |  |
| T type TORX ${ }_{\text {® }}$ bit socket | BT4-T* | (1/2" |  |  |  |  |  |  |  |  | - | - | - | $\bigcirc$ | $\bigcirc$ | - | $\bigcirc$ |
| Ttype TORX ${ }^{\circledR}$ impact wrench | S6T* |  |  |  |  |  |  | - | $\bigcirc$ |  | - | - | - |  |  |  |  |
| Type TORX ${ }^{\circledR}$ L handle wrench | LT* |  | - | - |  | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | - | - | - | $\bigcirc$ |  |  |
| T type TORX® driver | D1T-T* |  | - | - | $\bigcirc$ | - | - | $\bigcirc$ | - | - | - | - | - | $\bigcirc$ |  |  |  |

The $\boldsymbol{*}$ sign within the product number is allocated for the size (designation) number.

| E type TORX® ${ }^{\circledR}$ wrench |  | (3) | Designation E4 | E5 | E6 | E7 | E8 | E10 | E11 | E12 | E14 | E16 | E18 | E20 | E24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | "A" dimensions 3.83 | 4.72 | 5.69 | 6.17 | 7.47 | 9.37 | 10.03 | 11.12 | 12.85 | 14.71 | 16.64 | 18.41 | 22.10 |
|  | Designation symbols |  | Drive | Bolt diameter - | - | M5 | - | M6 | M8 | - | M10 | M12 | - | M14 | M16 | M18 |
| E type TORX ${ }^{\circledR}$ whench | B2-E* | (1/4") | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |  |  |  |  |  |  |  |
| E type TORX ${ }^{\circledR}$ wrench | B3-E* |  |  | - | $\bullet$ | $\bullet$ | - | - | $\bullet$ | - | - | - |  |  |  |
| E type TORX ${ }^{\circledR}$ wrench | B4-E* | (1/2" |  |  |  |  | - | - | - | - | $\bullet$ | - | - | $\bullet$ | $\bullet$ |
| E type TORX ${ }^{\circledR}$ long-straight offset wrench | WEE*X*L |  |  |  | - | - | - | - |  | $\bullet$ | - |  |  |  |  |

The $*$ sign within the product number is allocated for the size (designation) number.

| T type tamper resistant TORX® wrench |  |  | Designation T8 | T9 | T10 | T15 | T20 | T25 | T27 | T30 | T40 | T45 | T50 | T55 | T60 | T70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | O\} | "A" dimensions 2.30 | 2.48 | 2.72 | 3.26 | 3.84 | 4.40 | 4.96 | 5.49 | 6.60 | 7.77 | 8.79 | 11.17 | 13.20 | 15.49 |
|  | Designation symbols | Drive | Bolt diameter M2.5 | - | M3 | M3.5 | M4 | M5 | M5 | M6 | M8 | M8 | M10 | M12 | M16 | M18 |
| T type tamper resistant TORX ${ }^{\circledR}$ bit socket | BT2-T*H |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | - |  |  |  |  |  |  |
| T type tamper resistant FORX ${ }^{\circledR}$ bit socket | BT3-T*H |  |  |  |  |  | - | - | $\bullet$ | - | $\bullet$ | - | $\bullet$ | - |  |  |
| T type tamper resistant TORX® bit socket | BT4-T*H |  |  |  |  |  |  |  |  | $\bullet$ | $\bullet$ | - | - | - | $\bullet$ | $\bullet$ |
| T type tamper resistant TORX ${ }^{\circledR}$ L handle wrench | LT*H |  | - |  | - | - | - | - | - | - | $\bullet$ | - | - | $\bullet$ |  |  |
| T type tamper <br> resistant <br> TORX ${ }^{\circledR}$ driver | D1T-T*H |  | - | - | $\bullet$ | $\bullet$ | - | $\bullet$ | - | - | - | - | - |  |  |  |

The $\star$ sign within the product number is allocated for the size (designation) number.
-1/4"sq. T-TYPETORX BIT SOCKET

| No. | Fastener | D | L | $\ell$ | Vg | ¢ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT2-T 6 | T 6 | 16 | 54.5 | 32 | 35 | 10 |
| -T 8 | T 8 | 16 | 54.5 | 32 | 35 | 10 |
| -T 9 | T 9 | 16 | 54.5 | 32 | 35 | 10 |
| -T10 | T10 | 16 | 54.5 | 32 | 36 | 10 |
| -T15 | T15 | 16 | 59.5 | 37 | 37 | 10 |
| -T20 | T20 | 16 | 59.5 | 37 | 37 | 10 |
| -T25 | T25 | 16 | 59.5 | 37 | 37 | 10 |
| -T27 | T27 | 16 | 59.5 | 37 | 38 | 10 |
| -T30 | T30 | 16 | 59.5 | 37 | 38 | 10 |


| No. TBT209T | $\boldsymbol{\nabla g} 390$ |
| :--- | :--- |
| T-TYPE TORX ${ }^{\oplus}$ BIT SOCKET (1/4"sq.) | BT2-T6,T8,T9,T10,T15,T20,T25,T27,T30 |
| T-TY | EHB210 |
| Socket Holder |  |



1/4"sq. T-TYPE LONG TORX ${ }^{*}$ BIT SOCKET

(aiz) Power Fit
-3/8"sq. T-TYPE SHORT rorx ${ }^{*}$ BIT SOCKET

| No. | Fastener | D | L | $\ell$ | Vg | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3-T20S | T20 | 17 | 50 | 21 | 44 | 10 |  |
| -T25S | T25 | 17 | 50 | 21 | 44 | 10 |  |
| -T27S | T27 | 17 | 50 | 21 | 45 | 10 |  |
| -T30S | T30 | 17 | 50 | 21 | 45 | 10 |  |
| -T40S | T40 | 18.5 | 52 | 23 | 63 | 10 |  |
| -T45S | T45 | 18.5 | 52 | 23 | 65 | 10 |  |
| -T50S | T50 | 18.5 | 52 | 23 | 65 | 10 |  |
| -T55S | T55 | 22 | 58 | 26 | 119 | 10 |  |
| - Bit replacement is possible. (Refer to P.117) |  |  |  |  |  |  | POWERET |
| No. TBT3S08T |  | Vg610 eq 1 |  |  |  |  |  |
| T-TYPE SHORT TORX ${ }^{\oplus}$ BIT SOCKET • SET (3/8"sq.) |  | BT3-T20S,T25S,T27S,T30S,T40S, T45S,T50S,T55S |  |  |  |  |  |
| Socket Holder |  | EHB310 |  |  |  |  |  |

(9)


3/8"sq. T-TYPETORX ${ }^{\star}$ BIT SOCKET • SET (8pcs.)

| No. | Fastener | D | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ $\dagger$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3-T20L | T20 | 17 | 128 | 99 | 61 | 10 |  |
| -T25L | T25 | 17 | 128 | 99 | 61 | 10 |  |
| -T27L | T27 | 17 | 128 | 99 | 62 | 10 |  |
| -T30L | T30 | 17 | 128 | 99 | 62 | 10 |  |
| -T40L | T40 | 18.5 | 128 | 99 | 87 | 10 |  |
| -T45L | T45 | 18.5 | 128 | 99 | 89 | 10 |  |
| -T50L | T50 | 18.5 | 128 | 99 | 89 | 10 |  |
| -T55L | T55 | 22 | 128 | 96 | 170 | 10 |  |
| - Bit replacement is possible. (Refer to P.117) <br> - The long type that is useful for replacing air bags. |  |  |  |  |  |  |  |
| No. TBT3L08T |  | $\nabla \mathrm{g} 800$ | ¢ 1 |  |  |  |  |
| T-TYPE LONG TORX ${ }^{\circledR}$ BIT SOCKET • SET (3/8"sq.) |  |  | $\begin{aligned} & \text { BT3-T20L,T25L,T27L,T30L,T40L, } \\ & \text { T45L,T50L,T55L } \end{aligned}$ |  |  |  |  |
| Socket Holder |  |  | EHB310 |  |  |  |  |

3/8"sq. T-TYPE LONG TORX ${ }^{\star}$ BIT SOCKET • SET (8pcs.)


-1/2"sq. T-TYPETORX BIT SOCKET. SET (7pcs.)

-1/2"sq. LONG T-TYPETORX ${ }^{\star}$ BIT SOCKET SET (7pcs.)

-T-TYPE TORX L-SHAPED WRENCH SET (12pcs.)


- The pack can be used as a tray.

-T-TYPETORX ${ }^{\bullet}$ L-SHAPED WRENCH


| No. | Fastener | D | L | H | $\nabla \mathrm{g}$ | ¢ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LT 6 | T 6 | 3 | 50 | 17 | 3 | 10 |  |
| LT 8 | T 8 | 3 | 53 | 19 | 3.5 | 10 |  |
| LT10 | T10 | 3 | 56 | 20 | 4 | 10 |  |
| LT15 | T15 | 3.5 | 60 | 22 | 6 | 10 |  |
| LT20 | T20 | 4 | 64 | 24 | 8 | 10 |  |
| LT25 | T25 | 4.5 | 68 | 25 | 11 | 10 |  |
| LT27 | T27 | 5 | 72 | 27 | 14 | 10 |  |
| LT30 | T30 | 6 | 80 | 30 | 21 | 10 |  |
| LT40 | T40 | 7 | 87 | 33 | 30 | 10 |  |
| LT45 | T45 | 8 | 95 | 37 | 44 | 10 |  |
| LT50 | T50 | 9 | 109 | 41 | 65 | 10 |  |
| LT55 | T55 | 11.5 | 125 | 47 | 120 | 10 |  |

! CAUTION • APPLY FORCE IN THE DIRECTION OF THE BOLT ROTATION. IF YOU ! RAISE IT OR PUSH IT DOWN, IT MAY BREAK AT THE BEND.

- FOLDING T-TYPE TORX ${ }^{*}$ WRENCH



FOLDING T-TYPE TORX ${ }^{\circledR}$ WRENCH

| No. HLT7 | $\nabla$ g 210 | $\epsilon \in 5$ |
| :--- | :--- | :--- |
| Size | T10, T15, T20, T25, T27, T30, T40 |  |

- It can be used for the 7 sizes of T10~T40.
- It has a light and easy-to-grip plastic body.

Spare parts are configured. Please contact your dealer for details.
$\rrbracket^{\text {caution }}$ - Please apply force in the rotation direction of the bolt. There is a risk of damage from the bent part if excessively pulled up or pushed down.

| No. | Fastener | S | D | L | $\ell$ | Vg | ¢ $¢$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1T-T 6 | T 6 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -T 8 | T 8 | 10 | 29.6 | 172 | 75 | 100 | 5 |  |
| -T 9 | T 9 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T10 | T10 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T15 | T15 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T20 | T20 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T25 | T25 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T27 | T27 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T30 | T30 | 10 | 32 | 209 | 100 | 130 | 5 |  |
| -T40 | T40 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |
| -T45 | T45 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |
| -T50 | T50 | 12 | 33.8 | 282 | 150 | 190 | 5 |  |
| No. TD1T5 |  |  | Vg 650 | ¢ $\dagger 1$ |  |  |  |  |
| T-Type TORX ${ }^{\text {® }}$ Driver |  |  |  | D1T-T10, T15, T20, T25, T30 |  |  |  |  |
| No. TD1T12 |  |  | Vkg 1.7 | ¢ 11 |  |  |  |  |
| T-Type TORX ${ }^{\text {® }}$ Driver |  |  |  | $\begin{gathered} \hline \text { D1T-T6, T8, T9, T10, T15, T20, T25, } \\ \text { T27, T30, T40, T45, T50 } \\ \hline \end{gathered}$ |  |  |  |  |

-T-TYPE TORX ${ }^{\bullet}$ DRIVER • SET (5pcs.) (12pcs.)

(ㅈ)



| E-TYPE TORX ${ }^{\circledR}$ WRENCH - SET (6pcs.) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Fastener | D1 | $\mathrm{D}_{2}$ | L | Vg | $\oplus$ |  |
| B2-E 4 | E 4 | 5.8 | 12 | 18 | 8 | 10 |  |
| -E 5 | E 5 | 7 | 12 | 18.5 | 9 | 10 |  |
| -E 6 | E 6 | 8 | 12 | 19 | 9 | 10 |  |
| -E 7 | E 7 | 9 | 12 | 20.5 | 10 | 10 |  |
| -E 8 | E 8 | 10 | 12 | 21 | 11 | 10 |  |
| -E10 | E10 | 13 | 13.5 | 22 | 17 | 10 |  |
| POWER |  |  |  |  |  |  |  |

No. TB2E06 $\quad$ Vg $125 \quad \oplus 1$

E-Type TORX® Wrench (1/4"sq.) B2-E4, E5, E6, E7, E8, E10
Socket Holder EHB210

- 1/4"sq. E-TYPE TORX ${ }^{*}$ WRENCH • SET (6pcs.)


-3/8"sq. E-TYPE TORX ${ }^{\star}$ WRENCH • SET (9pcs.)



## 1/2"sq. E-TYPE TORX ${ }^{\text {® }}$ WRENCH • SET

 (9pcs.)
(2)

## - E-TYPE TORX LONG BOXEND WRENCH SET (3pcs.)



| No. TWEE3L | $\boldsymbol{\nabla g} 350$ |
| :--- | :--- |
| E-Type TORX ${ }^{\text {® }}$ Long Boxend Wrench | WEE6×7L, $8 \times 10 \mathrm{~L}, 12 \times 14 \mathrm{~L}$ |

- The substantial length and single-sided hilt-offset enable the tightening and loosening of E type TORX® pieces in hard to reach areas.
- This can be used for the tensioner pulleys of imported vehicles (American/European cars) and the stud bolt E TORX ${ }^{\circledR}$ of domestic vehicles.


These are restricted tools and the sale of these wrenches is limited to


## WARNING

 professional mechanics and other authorized users.
## Handling Instructions

- It is prohibited to use these tools for unauthorized use and they may not be modified in any respect.
- "Tamper Resistant Fasteners" are used so the equipment may not be easily dissembled. These tools are designed to loosen or fasten tamper resistant fasteners and must be used in a responsible, professional manner.
- Please refer to the equipment manufacturers manual, or seek approval from the equipment manufacturers, prior to commencing work on any piece of equipment protected by tamper resistant fasteners.
- Please ensure the security of this tool and do not allow unauthorized access to it.


| No. | Fastener | D | L | $\ell$ | Vg | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT2 -T 8H | T 8 | 16 | 54.5 | 32 | 35 | 10 |  |
| -T 9H | T 9 | 16 | 54.5 | 32 | 35 | 10 |  |
| -T10H | T10 | 16 | 54.5 | 32 | 36 | 10 |  |
| -T15H | T15 | 16 | 59.5 | 37 | 37 | 10 |  |
| -T20H | T20 | 16 | 59.5 | 37 | 37 | 10 |  |
| -T25H | T25 | 16 | 59.5 | 37 | 37 | 10 |  |
| -T27H | T27 | 16 | 59.5 | 37 | 38 | 10 |  |
| -T30H | T30 | 16 | 59.5 | 37 | 38 | 10 |  |
| - Bit replacement is possible. (Refer to P.117) |  |  |  |  |  |  | POWERTIT |
| No. TBT208TH |  | Vg 355 |  | $\oplus 1$ |  |  |  |
| T-Type TORX Bit Socket Socket for Tamper Resistant Fastener ( $1 / 4$ " sq.) |  |  |  | BT2-T8H, T9H, T10H, T15H, T20H, T25H, T27H, T30H |  |  |  |
| Socket Holder |  |  |  | EHB210 |  |  |  |

## 1/4"sq. T-TYPE TORX ${ }^{\circ}$ BIT SOCKET FOR TAMPER RESISTANT FASTENERS (8pcs.)


$\bigwedge^{\text {caution } \cdot C O M P A R E D ~ W I T H ~ A N ~ O R D I N A R Y ~ T O R X ® ~ W R E N C H, ~ T H E ~ T A M P E R ~}$ RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE. BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE.

－1／4＂sq．LONG T－TYPE TORX ${ }^{\ominus}$ BIT SOCKET FOR TAMPER RESISTANT FASTENERS （9pcs．）

©

| No． | Fastener | D | L | $\ell$ | $\nabla \mathrm{g}$ | ¢ $¢$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT2－T 8HL | T 8 | 16 | 121.5 | 99 | 53 | 10 |
| －T 9HL | T 9 | 16 | 121.5 | 99 | 53 | 10 |
| －T10HL | T10 | 16 | 121.5 | 99 | 54 | 10 |
| －T15HL | T15 | 16 | 121.5 | 99 | 54 | 10 |
| －T20HL | T20 | 16 | 121.5 | 99 | 54 | 10 |
| －T25HL | T25 | 16 | 121.5 | 99 | 54 | 10 |
| －T27HL | T27 | 16 | 121.5 | 99 | 55 | 10 |
| －T30HL | T30 | 16 | 121.5 | 99 | 55 | 10 |

Bit replacement is possible．（Refer to P．117）
POWERFIT
－The long type that is useful for replacing air bags

| No．TBT2L08TH $\quad$ g 975 | ¢ 1 |
| :---: | :---: |
| Long T－Type TORX ${ }^{\circledR}$ Bit Socket Socket for Tamper Resistant Fastener（1／4＂sq．） | BT2－T8HL，T9HL，T10HL，T15HL， T20HL，T25HL，T27HL，T30HL |
| Socket Holder | EHB210 |

caution • COMPARED WITH AN ORDINARY TORX® WRENCH，THE TAMPER RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE．BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE．

3／8＂sq．SHORT T－TYPE TORX ${ }^{\text {B }}$ BIT SOCKET ． SET FOR TAMPER RESISTANT FASTENERS （8pcs．）

（20）

3／8＂sq．T－TYPE TORX ${ }^{\ominus}$ BIT SOCKET • SET FOR TAMPER RESISTANT FASTENERS （8pcs．）


| No． | Fastener | D | L | $\ell$ | Vg | ¢ $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3－T20H | T20 | 17 | 66 | 37 | 44 | 10 |  |
| －T25H | T25 | 17 | 66 | 37 | 44 | 10 |  |
| －T27H | T27 | 17 | 66 | 37 | 45 | 10 |  |
| －T30H | T30 | 17 | 66 | 37 | 45 | 10 |  |
| －T40H | T40 | 18.5 | 71 | 42 | 63 | 10 |  |
| －T45H | T45 | 18.5 | 71 | 42 | 65 | 10 |  |
| －T50H | T50 | 18.5 | 71 | 42 | 65 | 10 |  |
| －T55H | T55 | 22 | 76 | 44 | 119 | 10 |  |
| －Bit replacement is possible．（Refer to P．117） |  |  |  |  |  |  | POWEPa |
| No．TBT308TH |  | Vg 610 |  | \＆ 1 |  |  |  |
| T－Type TORX ${ }^{\circledR}$ Bit Socket Socket for Tamper Resistant Fastener（3／8＂sq．） |  |  |  | BT3－T20H，T25H，T27H，T30H， <br> T40H，T45H，T50H，T55H |  |  |  |
| Socket Holder |  |  |  | EHB310 |  |  |  |

（caution • COMPARED WITH AN ORDINARY TORX® WRENCH，THE TAMPER RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE．BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE．


Power Fit
P
L

| No． | Fastener | D | L | $\ell$ | Vg | ¢ $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT3－T20HS | T20 | 17 | 50 | 21 | 44 | 10 |  |
| －T25HS | T25 | 17 | 50 | 21 | 44 | 10 |  |
| －T27HS | T27 | 17 | 50 | 21 | 45 | 10 |  |
| －T30HS | T30 | 17 | 50 | 21 | 45 | 10 |  |
| －T40HS | T40 | 18.5 | 52 | 23 | 63 | 10 |  |
| －T45HS | T45 | 18.5 | 52 | 23 | 65 | 10 |  |
| －T50HS | T50 | 18.5 | 52 | 23 | 65 | 10 |  |
| －T55HS | T55 | 22 | 58 | 26 | 119 | 10 |  |
| －Bit replacement is possible．（Refer to P．117） |  |  |  |  |  |  |  |
| No．TBT3S08TH |  | Vg 610 |  | ¢ $¢$ |  |  |  |
| Short T－Type TORX® Bit Socket Socket for Tamper Resistant Fastener（3／8＂sq．） |  |  |  | BT3－T20HS，T25HS，T27HS，T30HS， T40HS，T45HS，T50HS，T55HS |  |  |  |
| Socket Holder |  |  |  | EHB310 |  |  |  |

$\dagger^{\text {caution }}$－COMPARED WITH AN ORDINARY TORX® WRENCH，THE TAMPER RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE．BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE．


3/8" sq. LONG T-TYPE TORX ${ }^{*}$ BIT SOCKET FOR TAMPER RESISTANT FASTENERS (8pcs.)
$\prod^{\text {caution } \cdot C O M P A R E D ~ W I T H ~ A N ~ O R D I N A R Y ~ T O R X ® ~ W R E N C H, ~ T H E ~ T A M P E R ~}$ . RESISTANT TORX ${ }^{\circledR}$ WRENCH CAN ENDURE LOWER TORQUE. BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE.

1/2"sq. T-TYPE TORX BIT SOCKET • SET FOR TAMPER RESISTANT FASTENERS (7pcs.)
 RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE. BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE.


LONG T-TYPE TORX Bit SOCKET - SET FOR TAMPER RESISTANT FASTENERS (Tics.)

| No. | Fastener | D | L | $\boldsymbol{\ell}$ | $\mathbf{\nabla g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT4-T30HL | T30 | 22 | 132 | 99 | 90 | 10 |  |
| -T40HL | T40 | 22 | 132 | 99 | 106 | 10 |  |
| -T45HL | T45 | 22 | 132 | 99 | 108 | 10 |  |
| -T50HL | T50 | 22 | 132 | 99 | 108 | 10 |  |
| -T55HL | T55 | 22 | 132 | 96 | 170 | 10 |  |
| -T60HL | T60 | 24 | 132 | 94 | 224 | 10 |  |
| -T70HL | T70 | 25 | 132 | 91 | 293 | 10 |  |

- Bit replacement is possible. (Refer to P.117)
- The long type that is useful for replacing air bags.
No. TBT4L07TH $\quad$ Vg $1.1 \quad$ ๒ 1

Long T-Type TORX ® Bit Socket $\cdot$ Set for $\quad$ BT4-T30HL, T40HL, T45HL, T50HL $^{\text {S }}$
Tamper Resistant Fastener (1/2" sq.) T55HL, T60HL, T70HL
Socket Holder
EHB410
caution • COMPARED WITH AN ORDINARY TORX® WRENCH, THE TAMPER RESISTANT TORX® WRENCH CAN ENDURE LOWER TORQUE. BE CAREFUL NOT TO APPLY EXCESSIVE PRESSURE.


T-TYPE TORX ${ }^{\text {TS }}$ L-SHAPED WRENCH SET FOR TAMPER RESISTANT FASTENERS (11pcs.)


## -T-TYPETORX L-SHAPED WRENCH FOR

TAMPER RESISTANT FASTENERS


| No. | Fastener | D | L | H | Vg | \& $¢$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LT 8H | T 8H | 3 | 53 | 19 | 3.5 | 10 |  |
| LT10H | T10H | 3 | 56 | 20 | 4 | 10 |  |
| LT15H | T15H | 3.5 | 60 | 22 | 6 | 10 |  |
| LT20H | T20H | 4 | 64 | 24 | 8 | 10 |  |
| LT25H | T25H | 4.5 | 68 | 25 | 11 | 10 |  |
| LT27H | T27H | 5 | 72 | 27 | 14 | 10 |  |
| LT30H | T30H | 6 | 80 | 30 | 21 | 10 |  |
| LT40H | T40H | 7 | 87 | 33 | 30 | 10 |  |
| LT45H | T45H | 8 | 95 | 37 | 44 | 10 |  |
| LT50H | T50H | 9 | 109 | 41 | 65 | 10 |  |
| LT55H | T55H | 11.5 | 125 | 47 | 120 | 10 |  |
| CAUTION $\cdot$ COMPARED WITH AN ORDINARY TORX WRENCH, THE TAMPER RESISTANT TORX® WRENCHCAN ENDURE LOWER TORQUE. BE CAREFULNOT TO APPLYE EXESSIVE PRESSURE.•APPL FORCE IN THE DIRECTON OF THE BOLT ROTATION. IF YOU RAISE IT OR PUSH ITDOWN, IT MAY BREAK AT THE BEND. |  |  |  |  |  |  |  |

-T-TYPETORX ${ }^{*}$ DRIVER SET FOR TAMPER RESISTANT FASTENERS (11pcs.)


The display on the grip end enables the distinction between the TORX ${ }^{\circledR}$ driver and the tamper resistant TORX ${ }^{\circledR}$ driver.
(3)


List of applications for the 21st Century Version Tool-bit socket replacement bit.
*Caution: there is no compatibility with tools other than the 21st Century Version Tools.
NEW

$\square$ T type tamper resistant TORX® bit (short)

| Applied product number |  |  | Replacement bit product number | Dasigation | S | L | type |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | (1/2" |  |  |  |  |  |  |
|  | BT3-T20HS |  | T-T20HS | T20 | 6.3 | 30 | A |  |
|  | -T25HS |  | -T25HS | T25 | 6.3 | 30 | A |  |
|  | -T27HS |  | -T27HS | T27 | 6.3 | 30 | A |  |
|  | -T30HS |  | -T30HS | T30 | 6.3 | 30 | A |  |
|  | -T40HS |  | -T40HS | T40 | 7.9 | 32 | B |  |
|  | -T45HS |  | -T45HS | T45 | 7.9 | 32 | B |  |
|  | -T50HS |  | -T50HS | T50 | 7.9 | 32 | B |  |
|  | -T55HS |  | -T55HS | T55 | 12 | 38 | B |  |




■ T type TORX® bit (long)

■Ttype TORX® bit (standard)

| Applied product number |  |  | Replacement bit product number | Designation | S | L | type |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| BT2-T 6 |  |  | T-T 6 | T 6 | 6.3 | 41 | A |  |
| -T 8 |  |  | -T 8 | T 8 | 6.3 | 41 | A |  |
| -T 9 |  |  | -T 9 | T 9 | 6.3 | 41 | A |  |
| -T10 |  |  | -T10 | T10 | 6.3 | 41 | A |  |
| -T15 |  |  | -T15 | T15 | 6.3 | 46 | A |  |
| -T20 | BT3 -T20 |  | -T20 | T20 | 6.3 | 46 | A |  |
| -T25 | -T25 |  | -T25 | T25 | 6.3 | 46 | A |  |
| -T27 | -T27 |  | -T27 | T27 | 6.3 | 46 | A |  |
| -T30 | -T30 | BT4 -T30 | -T30 | T30 | 6.3 | 46 | A |  |
|  | -T40 | -T40 | -T40 | T40 | 7.9 | 51 | B |  |
|  | -T45 | -T45 | -T45 | T45 | 7.9 | 51 | B |  |
|  | -T50 | -T50 | -T50 | T50 | 7.9 | 51 | B |  |
|  | -T55 | -T55 | -T55 | T55 | 12 | 56 | B |  |
|  |  | -T60 | -T60 | T60 | 14 | 61 | B |  |
|  |  | -T70 | -T70 | T70 | 17 | 66 | B |  |


$\boxed{\text { © type tamper resistant TORX® bit (standard) }}$


$\square$ T type tamper resistant TORX® bit (long)

| Applied product number |  |  | Replacement bit product number | Designation | S | L | type |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1/2" |  |  |  |  |  |  |
| BT2-T 8HL |  |  | T -T 8HL | T 8 | 6.3 | 108 | A |  |
| -T 9HL |  |  | -T 9HL | T 9 | 6.3 | 108 | A |  |
| -T10HL |  |  | -T10HL | T10 | 6.3 | 108 | A |  |
| -T15HL |  |  | -T15HL | T15 | 6.3 | 108 | A |  |
| -T20HL | BT3-T20HL |  | -T20HL | T20 | 6.3 | 108 | A |  |
| -T25HL | -T25HL |  | -T25HL | T25 | 6.3 | 108 | A |  |
| -T27HL | -T27HL |  | -T27HL | T27 | 6.3 | 108 | A |  |
| -T30HL | -T30HL | BT4-T30HL | -T30HL | T30 | 6.3 | 108 | A |  |
|  | -T40HL | -T40HL | -T40HL | T40 | 7.9 | 108 | B |  |
|  | -T45HL | -T45HL | -T45HL | T45 | 7.9 | 108 | B |  |
|  | -T50HL | -T50HL | -T50HL | T50 | 7.9 | 108 | B |  |
|  | -T55HL | -T55HL | -T55HL | T55 | 12 | 108 | B |  |
|  |  | -T60HL | -T60HL | T60 | 14 | 108 | B |  |
|  |  | -T70HL | -T70HL | T70 | 17 | 108 | B |  |


Box end wrench sets

- Carefully read the individual safety warnings for the items included
within the set.
- When carrying the set, make sure the metal fasteners are locked

Box end wrenches

- Use wrenches that conform to the size of the bolts and nuts.
- Do not use by adding on pipe, etc.
- Insert the bolts and nuts fully.

Do not use this tool as a hammer.

- Do not expose this tool to impact by hitting it with a hammer, etc.


## List of box end wrench sizes

|  | $\begin{gathered} 5.5 \\ 7 \end{gathered}$ | $\begin{aligned} & 6 \\ & \times \\ & 7 \end{aligned}$ | $\begin{aligned} & 6 \\ & \times \\ & 8 \\ & 8 \end{aligned}$ | $\begin{aligned} & 7 \\ & \times \\ & 8 \end{aligned}$ | $\begin{aligned} & 8 \\ & \times \\ & 9 \end{aligned}$ | $\begin{gathered} 8 \\ \times \\ 10 \end{gathered}$ | $\begin{gathered} 10 \\ \times \\ 11 \end{gathered}$ | $\begin{gathered} 10 \\ \times \\ 12 \end{gathered}$ | $\begin{gathered} 10 \\ \times \\ 13 \end{gathered}$ | $\begin{gathered} 10 \\ \times \\ 14 \end{gathered}$ | $\begin{gathered} 11 \\ \times \\ 13 \end{gathered}$ | $\begin{gathered} 12 \\ \times \\ 14 \end{gathered}$ | $\begin{gathered} 13 \\ \times \\ 15 \end{gathered}$ | $\begin{gathered} 13 \\ \times \\ 17 \end{gathered}$ | $\begin{gathered} 14 \\ \times \\ 17 \end{gathered}$ | $\begin{gathered} 16 \\ \times \\ 18 \end{gathered}$ | $\begin{gathered} 17 \\ \times \\ 19 \end{gathered}$ | $\begin{gathered} 17 \\ \times \\ 21 \end{gathered}$ | $\begin{gathered} 19 \\ \times \\ 21 \end{gathered}$ | $\begin{gathered} 19 \\ \times \\ 22 \end{gathered}$ | $\begin{gathered} 20 \\ \times \\ 22 \end{gathered}$ | $\begin{gathered} 21 \\ \times \\ 23 \end{gathered}$ | $\begin{aligned} & 21 \\ & \times \\ & 26 \end{aligned}$ | $\begin{gathered} 22 \\ \times \\ 24 \end{gathered}$ | $\begin{gathered} 23 \\ \times \\ 26 \end{gathered}$ | $\begin{gathered} 24 \\ \times \\ 27 \end{gathered}$ | $\begin{gathered} 25 \\ \times \\ 28 \end{gathered}$ | $\begin{gathered} 26 \\ \times \\ 32 \end{gathered}$ | $\begin{gathered} 27 \\ \times \\ 30 \end{gathered}$ | $\begin{gathered} 27 \\ \times \\ 32 \end{gathered}$ | $\begin{gathered} 29 \\ \times \\ 32 \end{gathered}$ | $\begin{gathered} 30 \\ \times \\ 32 \end{gathered}$ | $\begin{aligned} & 32 \\ & \times \\ & 36 \end{aligned}$ | $\begin{gathered} 35 \\ \times \\ 38 \end{gathered}$ | $\begin{gathered} 36 \\ \times \\ 38 \end{gathered}$ | $\left\lvert\, \begin{gathered} 41 \\ \times \\ 46 \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M100 Straight-short |  |  |  | $0$ |  |  |  | - |  |  |  | - |  |  | - |  | - |  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |
| M150 <br> Straight-long |  |  |  |  |  | $\bigcirc$ |  | - |  |  |  | $\bigcirc$ |  |  | - |  | - |  |  |  |  |  |  | $0$ |  |  |  |  |  |  |  |  |  |  |  |  |
| M160 <br> Super long-straight |  |  |  |  |  | $0$ |  | $0$ |  |  |  | $0$ | $0$ |  | $0$ |  | $0$ |  |  |  |  |  |  | $0$ |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | $0$ |  |  |  | $0$ |  |  | $0$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $0$ | $0$ | $0$ | $0$ | $0$ |  | - | - | $\bigcirc$ |
| M5S $45^{\circ} \times 6^{\circ}$ <br> Short | $0$ |  |  | - |  | $0$ |  | - |  |  | $0$ | $0$ | $0$ |  | $\bigcirc$ | $0$ | $0$ |  | $0$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M5 $45^{\circ} \times 6^{\circ}$ <br> Long | - | - | - | - | - | $\bigcirc$ | - | - | - | - | - | - | - | $\bigcirc$ | - | - | - | - | - | - | - | - | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | - | - | $\bigcirc$ | - | - | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ |
|  | - | $\bigcirc$ |  |  | - | - |  | - | $0$ |  | $0$ | $\bigcirc$ |  | $0$ | $0$ |  | - |  | $0$ | $0$ |  | - |  | $0$ |  | $0$ |  |  |  |  |  |  |  |  |  |  |



| BOX END WRENCH SET (6pcs.) • (8pcs.) • (10pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TM506 | Fkg 1.3 | E日 1 |  |
| Box End Wrench | M5-0810 | 1113 |  |
| - Resin form tray (L444×W184×H48mm) attached. |  |  | POWERAI. |
| No. TM508 | Fkg 1.6 | ¢ 1 |  |
| Box End Wrench | $\begin{array}{r} \text { M5-0810, } \\ 1921, \end{array}$ | $1113$ |  |
| - Resin form tray (L444×W184×H48mm) attached. |  |  | POWERIT. |
| No. TM510 | Fkg 2.3 | ¢ 1 |  |
| Box End Wrench | $\begin{array}{r} \text { M5-0550 } \\ 1719, \end{array}$ | $\begin{aligned} & 0,101 \\ & , 222 \end{aligned}$ |  |
| - Resin form tray (L444×W184×H48mm) attached. |  |  | POWererio |
| BOX END WRENCH SET (6pcs.) |  |  | in |
| No. TM506B | Vkg 1.7 | Eq1 |  |
| Box End Wrench in | $\begin{array}{r} \text { M5- } 3 / 8 \times 7 \\ 13 / 16 \end{array}$ | $\begin{aligned} & \times 9 / 16 \\ & 15 / 16 \times \end{aligned}$ |  |

- Resin form tray (L444×W184×H48mm) attached.
- BOX END WRENCH SET (6pcs.) (8pcs.) (10pcs.)


TM506


TM510

| $45^{\circ} \times 6^{\circ}$ LONG BOX END WRENCH |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T ${ }_{2}$ | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| M5 -05507 | $5.5 \times 7$ | 10 | 12 | 4.5 | 5 | 151 | 20 | 5 |  |
| -0607 | $6 \times 7$ | 10.5 | 12 | 4.5 | 5 | 151 | 20 | 5 |  |
| -0608 | $6 \times 8$ | 10.5 | 13 | 4.5 | 5.5 | 157 | 27 | 5 |  |
| -0708 | $7 \times 8$ | 12 | 13 | 5 | 5.5 | 167 | 30 | 5 |  |
| -0809 | $8 \times 9$ | 13 | 14.5 | 5.5 | 6 | 174 | 40 | 5 |  |
| -0810 | $8 \times 10$ | 13 | 16 | 5.5 | 6.5 | 179 | 45 | 5 |  |
| -1011 | $10 \times 11$ | 16 | 17.5 | 6.5 | 7 | 197 | 60 | 5 |  |
| -1012 | $10 \times 12$ | 16 | 18.5 | 6.5 | 7.5 | 207 | 70 | 5 |  |
| -1013 | $10 \times 13$ | 16 | 19.5 | 6.5 | 8.5 | 208 | 70 | 5 |  |
| -1014 | $10 \times 14$ | 16 | 21 | 6.5 | 9.5 | 218 | 82 | 5 |  |
| -1113 | $11 \times 13$ | 17.5 | 19.5 | 7 | 8.5 | 218 | 80 | 5 |  |
| -1214 | $12 \times 14$ | 18.5 | 21 | 7.5 | 9.5 | 226 | 100 | 5 |  |
| -1315 | $13 \times 15$ | 19.5 | 23 | 8.5 | 10 | 236 | 115 | 5 |  |
| -1317 | $13 \times 17$ | 19.5 | 25.5 | 8.5 | 10.5 | 252 | 135 | 5 |  |
| -1417 | $14 \times 17$ | 21 | 25.5 | 9.5 | 10.5 | 253 | 140 | 5 |  |
| -1618 | $16 \times 18$ | 24 | 27 | 10.5 | 11.5 | 265 | 180 | 5 |  |
| -1719 | $17 \times 19$ | 25.5 | 28 | 10.5 | 12 | 287 | 220 | 5 |  |
| -1721 | $17 \times 21$ | 25.5 | 31 | 10.5 | 13 | 308 | 250 | 5 |  |
| -1921 | $19 \times 21$ | 28 | 31 | 12 | 13 | 309 | 270 | 5 |  |
| -1922 | $19 \times 22$ | 28 | 32.5 | 12 | 13.5 | 320 | 280 | 5 |  |
| -2022 | $20 \times 22$ | 30 | 32.5 | 12 | 13.5 | 321 | 300 | 5 |  |
| -2123 | $21 \times 23$ | 31 | 34 | 13 | 14.5 | 322 | 335 | 5 |  |
| -2126 | $21 \times 26$ | 31 | 38 | 13 | 16 | 354 | 405 | 5 |  |
| -2224 | $22 \times 24$ | 32.5 | 35.5 | 13.5 | 15 | 334 | 380 | 5 |  |
| -2326 | $23 \times 26$ | 34 | 38 | 14.5 | 16 | 356 | 410 | 5 |  |
| -2427 | $24 \times 27$ | 35.5 | 39 | 15 | 16.5 | 367 | 440 | 5 |  |
| -2528 | $25 \times 28$ | 36.5 | 41 | 15.5 | 17 | 379 | 525 | 5 |  |
| -2632 | 26×32 | 38 | 47 | 16 | 18 | 412 | 630 | 5 |  |
| -2730 | 27×30 | 39.5 | 44 | 16.5 | 18 | 412 | 640 | 5 |  |
| -2732 | $27 \times 32$ | 39.5 | 47 | 16.5 | 18 | 413 | 675 | 5 |  |
| -2932 | $29 \times 32$ | 44 | 47 | 18 | 18 | 460 | 795 | 5 |  |
| -3032 | $30 \times 32$ | 44 | 47 | 18 | 18 | 460 | 795 | 5 |  |
| -3236 | $32 \times 36$ | 47 | 52.5 | 18 | 21 | 490 | 950 | 5 |  |
| -3538 | $35 \times 38$ | 52.5 | 55 | 21 | 22 | 519 | 1150 | 5 |  |
| -3638 | $36 \times 38$ | 52.5 | 55 | 21 | 22 | 519 | 1150 | 5 |  |
| -4146 | $41 \times 46$ | 59.5 | 66.5 | 24.5 | 26 | 593 | 1760 | 2 |  |


| $45^{\circ} \times 6^{\circ}$ LONG BOX END WRENCH in |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1 \times} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T 2 | L | Vg | ¢ |  |
| M5-1/4 $\times 5 / 16$ | $6.3 \times 7.9$ | 10.5 | 13 | 4.5 | 5.5 | 157 | 27 | 5 |  |
| $-5 / 16 \times 3 / 8$ | $7.9 \times 9.5$ | 13 | 16 | 5.5 | 6.5 | 179 | 45 | 5 |  |
| -3/8 $\times 7 / 16$ | $9.5 \times 11.1$ | 16 | 17.5 | 6.5 | 7 | 197 | 60 | 5 |  |
| $-13 / 32 \times 1 / 2$ | $10.3 \times 12.7$ | 16 | 19.5 | 6.5 | 8.5 | 208 | 70 | 5 |  |
| $-7 / 16 \times 1 / 2$ | $11.1 \times 12.7$ | 17.5 | 19.5 | 7 | 8.5 | 218 | 80 | 5 |  |
| $-1 / 2 \times 9 / 16$ | $12.7 \times 14.2$ | 19.5 | 21 | 8.5 | 9.5 | 235 | 111 | 5 |  |
| $-9 / 16 \times 5 / 8$ | $14.2 \times 15.8$ | 21 | 24 | 9.5 | 10.5 | 252 | 139 | 5 |  |
| $-19 / 32 \times 11 / 16$ | $15 \times 17.4$ | 23 | 25.5 | 10 | 10.5 | 254 | 146 | 5 |  |
| $-5 / 8 \quad \times 11 / 16$ | $15.8 \times 17.4$ | 24 | 25.5 | 10.5 | 10.5 | 265 | 171 | 5 |  |
| -5/8 $\quad \times 3 / 4$ | $15.8 \times 19$ | 24 | 28 | 10.5 | 12 | 286 | 207 | 5 |  |
| $-11 / 16 \times 3 / 4$ | $17.4 \times 19$ | 25.5 | 28 | 10.5 | 12 | 287 | 220 | 5 |  |
| $-3 / 4 \quad \times 25 / 32$ | $19 \times 19.8$ | 28 | 30 | 12 | 12 | 309 | 263 | 5 |  |
| $-3 / 4 \times 13 / 16$ | $19 \times 20.6$ | 28 | 31 | 12 | 13 | 309 | 270 | 5 |  |
| $-25 / 32 \times 7 / 8$ | $19.8 \times 22.2$ | 30 | 32.5 | 12 | 13.5 | 321 | 300 | 5 |  |
| $-13 / 16 \times 7 / 8$ | $20.6 \times 22.2$ | 31 | 32.5 | 13 | 13.5 | 322 | 324 | 5 |  |
| $-15 / 16 \times 1$ | $23.8 \times 25.4$ | 35.5 | 36.5 | 15 | 15.5 | 366 | 464 | 5 |  |
| -1 $\times 1-1 / 16$ | $25.4 \times 26.9$ | 36.5 | 39 | 15.5 | 16.5 | 378 | 515 | 5 |  |
| $-1-1 / 8 \times 1-1 / 4$ | $28.5 \times 31.7$ | 44 | 47 | 18 | 18 | 460 | 795 | 5 |  |

$-45^{\circ} \times 6^{\circ}$ LONG BOX END WRENCH


L $6^{\circ}+45^{\circ} \mathrm{T}$ T1IC $45^{\circ} / 6^{\circ}$

$\bullet 45^{\circ} \times 6^{\circ}$ SHORT BOX END WRENCH


$45^{\circ}$ LONG BOX END WRENCH SET (6pcs.)


| $45^{\circ}$ LONG BOX END W | SET (6p |  | mm |
| :---: | :---: | :---: | :---: |
| No. M256 | Vkg 2.1 | ¢ 1 | JIS |
| $45^{\circ}$ Long Box End Wrench | M25-10×12, 12×14, 14×17, 17×19, 19×21, $23 \times 26$ |  |  |
| No. M2506 | Vkg 2.1 | ¢ $\uparrow 1$ | JIS |
| $45^{\circ}$ Long Box End Wrench | M25- $8 \times 10,11 \times 13,12 \times 14,17 \times 19,22 \times 24,24 \times 27$ |  |  |
| Common liems |  |  |  |
| Metal Case | M256-M L385×W100×H45mm |  |  |

-45º LONG BOX END WRENCH SET (8pcs.) (10pcs.)


| $45^{\circ}$ LONG BOX END W | SET (8pc | Opcs.) | mm |
| :---: | :---: | :---: | :---: |
| No. M258 | Vkg 2.5 | ¢ 1 | JIS |
| $45^{\circ}$ Long Box End Wrench | $\begin{aligned} & \text { M } 25-8 \times 10,10 \times 12,11 \times 13,12 \times 14,14 \times 17,17 \times 19, \\ & 19 \times 21,22 \times 24 \end{aligned}$ |  |  |
| No. M2510 | Vkg 3 | ¢ 1 | JIS |
| $45^{\circ}$ Long Box End Wrench | $\begin{aligned} & \mathrm{M} 25-5.5 \times 7,8 \times 10,10 \times 12,11 \times 13,12 \times 14,14 \times 17, \\ & \quad 17 \times 19,19 \times 21,22 \times 24,24 \times 27 \\ & \hline \end{aligned}$ |  |  |
| Common liems |  |  |  |
| Metal Case | M258-M L370×W180×H55mm |  |  |



| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T ${ }_{2}$ | L | Vg | \&¢ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M25-5.5× 7 | $5.5 \times 7$ | 9.5 | 12 | 4.5 | 5 | 150 | 26 | 10 |  |
| - 6x 7 | $6 \times 7$ | 11 | 12 | 4.5 | 5 | 150 | 26 | 10 |  |
| - 8× 9 | $8 \times 9$ | 14 | 15 | 5.5 | 6 | 175 | 50 | 10 |  |
| - 8×10 | $8 \times 10$ | 14 | 17 | 5.5 | 6.5 | 175 | 50 | 10 |  |
| - $10 \times 12$ | $10 \times 12$ | 17 | 19 | 6.5 | 7.5 | 200 | 70 | 10 |  |
| - $10 \times 13$ | $10 \times 13$ | 17 | 21 | 6.5 | 8.5 | 200 | 72 | 10 |  |
| - $10 \times 14$ | 10×14 | 17 | 22 | 6.5 | 9 | 220 | 100 | 10 |  |
| - 11×13 | $11 \times 13$ | 18 | 21 | 7 | 8.5 | 200 | 74 | 10 |  |
| - $12 \times 14$ | $12 \times 14$ | 19 | 22 | 7.5 | 9 | 220 | 110 | 10 |  |
| - $13 \times 17$ | $13 \times 17$ | 21 | 26 | 8.5 | 10.5 | 245 | 145 | 10 |  |
| - $14 \times 17$ | $14 \times 17$ | 22 | 26 | 9 | 10.5 | 245 | 155 | 10 |  |
| -17×19 | $17 \times 19$ | 26 | 29 | 10.5 | 12 | 270 | 210 | 10 |  |
| - $17 \times 21$ | $17 \times 21$ | 26 | 31 | 10.5 | 13 | 310 | 270 | 10 |  |
| - $19 \times 21$ | $19 \times 21$ | 29 | 31 | 12 | 13 | 310 | 275 | 10 |  |
| - 19×22 | 19×22 | 29 | 33 | 12 | 13.5 | 310 | 280 | 10 |  |
| - $21 \times 23$ | $21 \times 23$ | 31 | 34 | 13 | 14.5 | 310 | 340 | 5 |  |
| - $22 \times 24$ | 22×24 | 33 | 35 | 13.5 | 15 | 315 | 350 | 5 |  |
| - $23 \times 26$ | $23 \times 26$ | 34 | 38 | 14.5 | 16 | 355 | 410 | 5 |  |
| -24×27 | $24 \times 27$ | 35 | 39 | 15 | 16.5 | 360 | 460 | 5 | POWEATIT. |


| $45^{\circ}$ LONG BOX | ND WRENCH |  |  |  |  |  |  |  | in |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T 1 | T 2 | L | $\nabla \mathrm{g}$ | ¢ |  |  |
| MB25-3/8 $\times 7 / 16$ | $9.5 \times 11.1$ | 16 | 18 | 6 | 7 | 195 | 80 | 10 |  |  |
| $-1 / 2 \times 9 / 16$ | $12.7 \times 14.2$ | 20 | 22 | 8 | 8 | 220 | 115 | 10 |  |  |
| - $5 / 8 \times 11 / 16$ | $15.8 \times 17.4$ | 24 | 26 | 10 | 10 | 245 | 105 | 10 |  | - |
| $-3 / 4 \times 25 / 32$ | $19 \times 19.8$ | 29 | 30 | 11 | 11 | 275 | 210 | 10 |  | $\mathrm{T}_{1} \ddagger \square 4^{\circ}$ |



| FLAT TYPE LONG BOX END WRENCH |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T | L | Vg | $\oplus$ | mm |
| M150-8×10 | $8 \times 10$ | 13 | 16 | 5.5 | 6.5 | 185 | 44 | 10 |  |
| -10×12 | $10 \times 12$ | 16 | 18 | 6.5 | 7.5 | 200 | 56 | 10 |  |
| -11×13 | $11 \times 13$ | 17 | 19 | 7 | 8 | 200 | 60 | 10 |  |
| -12×14 | $12 \times 14$ | 18 | 21 | 7.5 | 8 | 220 | 80 | 10 |  |
| -14×17 | $14 \times 17$ | 21 | 25 | 8 | 8.5 | 245 | 125 | 10 |  |
| -17×19 | $17 \times 19$ | 25 | 28 | 8.5 | 9 | 285 | 148 | 10 |  |
| -22×24 | $22 \times 24$ | 32 | 35 | 9.5 | 10 | 335 | 240 | 10 |  |
| FLAT TYPE LONG BOX END WRENCH SET (5pcs.) |  |  |  |  |  |  |  |  |  |
| No. M1505 |  | Vg 380 |  | ¢ 10 |  |  |  |  |  |
| Flat Type Long Box End Wrench |  |  | M150-8×10, $10 \times 12,11 \times 13,12 \times 14,14 \times 17$ |  |  |  |  |  |  |

- FLAT TYPE LONG BOX END WRENCH



HEX BOX END WRENCHS
- DOUBLE-FLEX RATCHET BOX END WRENCH



## DOUBLE-FLEX RATCHET BOX END WRENCH




* Feed of 8 mm ratchet offset wrench section is $6^{\circ}$

Both heads are capable of final tightening
$5^{\circ}$ feed that's capable of smooth continuous work in tight spaces (excluding 8mm)

- Head tilt angle is $180^{\circ}$

Nonslip grip design is adopted
$\lambda^{\text {caution }}$ - Since the joint is sensitive to impact and twist, please be careful not to apply too much force.

| DOUBLE-FLEX RATCHET BOX END WRENCH |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathrm{S}_{1 \times \mathrm{S}} \mathrm{S}_{2}$ | D1 | $\mathrm{D}_{2}$ | T1 | T2 | L | Vg | ¢ |  |
| MR1-0607F | $6 \times 7$ | 18 | 18 | 7.4 | 7.4 | 120 | 65 | 5 |  |
| MR1-0810F | $8 \times 10$ | 18 | 21 | 7.4 | 8.4 | 150 | 75 | 5 |  |
| MR1-1012F | $10 \times 12$ | 21 | 23.5 | 8.4 | 8.4 | 175 | 105 | 5 |  |
| MR1-1113F | $11 \times 13$ | 22 | 25 | 8.4 | 8.4 | 185 | 120 | 5 |  |
| MR1-1214F | $12 \times 14$ | 23.5 | 26.5 | 8.4 | 8.4 | 195 | 135 | 5 |  |
| MR1-1315F | $13 \times 15$ | 25 | 28 | 8.4 | 8.4 | 205 | 155 | 5 |  |
| MR1-1417F | $14 \times 17$ | 26.5 | 30.5 | 8.4 | 10 | 225 | 190 | 5 |  |
| MR1-1618F | $16 \times 18$ | 29 | 32 | 10 | 11.4 | 250 | 270 | 5 |  |
| MR1-1719F | $17 \times 19$ | 30.5 | 34 | 10 | 11.4 | 260 | 285 | 5 |  |
| MR1-2123F | $21 \times 23$ | 38 | 45 | 12.5 | 13.5 | 312 | 555 | 5 |  |
| MR1-2224F | $22 \times 24$ | 41 | 45 | 13.5 | 13.5 | 325 | 590 | 5 |  |
| DOUBLE-FLEX RATCHET BOX END WRENCH SET (5pcs.) |  |  |  |  |  |  |  |  |  |
| No. TMR105 |  | Vg 660 |  | \& 1 |  |  |  |  |  |
| Double-Flex Ratchet Box End Wrench |  |  |  | $\begin{array}{r} \text { MR1-0810F, } \\ 1417 \mathrm{~F} \end{array}$ |  |  | $12 \mathrm{~F} \text {, }$ | $21$ | $4 F, 1315 F$ |

- Both heads are capable of final tightening.

Since the span of the ratchet offset wrench and hinge sections is shortened and thickness is designed thin and flat, smooth continuous work in tight spaces is possible
$5^{\circ}$ ratchet feed allows the fine feeding
Size is displayed on the head where it is easily visible. Working direction can also be seen at a glance with the arrow display.
caution - Since the joint is sensitive to impact and twist, please be careful not to apply too much force.

| SHORT RATCHET BOX END WRENCH |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T ${ }_{2}$ | L | Vg | Eq |  |
| MR1S-0810F | $8 \times 10$ | 18 | 21 | 7.5 | 8.5 | 107 | 38 | 5 |  |
| -1012F | $10 \times 12$ | 21 | 23 | 8.5 | 8.5 | 129 | 91 | 5 |  |
| -1113F | $11 \times 13$ | 22 | 25 | 8.5 | 8.5 | 135 | 105 | 5 |  |
| -1214F | $12 \times 14$ | 23.5 | 26.5 | 8.5 | 8.5 | 149 | 117 | 5 |  |
| -1315F | $13 \times 15$ | 25 | 28 | 8.5 | 8.5 | 155 | 133 | 5 |  |
| -1417F | $14 \times 17$ | 26.5 | 30.5 | 8.5 | 10 | 168 | 162 | 5 |  |
| -1618F | $16 \times 18$ | 29 | 32 | 10 | 11.5 | 170 | 210 | 5 |  |
| -1719F | $17 \times 19$ | 30.5 | 34 | 10 | 11.5 | 180 | 233 | 5 |  |


| SHORT RATCHET BOX END WRENCH SET (5pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TMR1S05 | $\nabla \mathrm{g} 580$ | $\epsilon$ |  |
| Flex Ratchet Box End Wrench | MR1S-08 | 012F |  |

* Ratchet head is available as replacement part.
$\wedge^{\text {caution } ~-~ D O ~ N O T ~ A P P L Y ~ E X C E S S I V E ~ P O W E R ~ O N ~ T H E ~ J O I N T ~ P A R T ~}$
! - THE RATCHET END IS ONLY FOR TEMPORARY FASTENINGS. DO NOT USE IT FOR PERMANENT FASTENING

EXTRA-LONG RATCHET BOX END WRENCH

| No. | S | D1 | $\mathrm{D}_{2}$ | T1 | T2 | L | Vg | ¢ $¢$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MR15L-10F | 10 | 15.4 | 21 | 8.2 | 13.4 | 315 | 135 | 5 |  |
| MR15L-12F | 12 | 19 | 23.5 | 9.6 | 14.4 | 350 | 188 | 5 |  |
| MR15L-13F | 13 | 20.5 | 25 | 10.5 | 14.9 | 380 | 224 | 5 |  |
| MR15L-14F | 14 | 22 | 26.5 | 11 | 15.4 | 395 | 256 | 5 |  |
| MR15L-15F | 15 | 23.5 | 28 | 11.9 | 15.9 | 405 | 284 | 5 |  |
| MR15L-17F | 17 | 26 | 30.5 | 13.4 | 18.5 | 435 | 370 | 5 |  |
| MR15L-19F | 19 | 28.5 | 34 | 14.4 | 20.9 | 460 | 451 | 5 |  |

- Since the span of the ratchet offset wrench and hinge sections is shortened and thickness is designed thin and flat, smooth continuous work in tight spaces is possible.
- Tooth number of 72 and $5^{\circ}$ ratchet feed allows the fine feeding.
- Size is displayed on the head where it is easily visible.
- Both the ratchet and offset wrench sides have single-side offset shape, allowing the use even with counterbore around the bolt • nut.
- Rotational direction can be switched with the lever on the head side, allowing the use in both tightening and loosening.
$\bigwedge^{\text {caution } \cdot \text { Since the joint is sensitive to impact and twist, please be careful not to apply too }}$ much force.
- Since excessive load can be placed on the long total length, please beware of over-torque.


## RATCHET BOX END WRENCH

| No. | $\mathbf{S}_{1} \times \mathbf{S}^{*}{ }^{*}$ | D1 | $\mathrm{D}_{2}$ | T | L | $\nabla \mathrm{g}$ | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RM- $8 \times 9$ | $8 \times 9$ | 17 | 19 | 10 | 120 | 70 | 10 |  |
| - $8 \times 10$ | $8 \times 10$ | 17 | 22 | 10 | 120 | 70 | 10 |  |
| -10×12 | $10 \times 12$ | 22 | 24 | 11 | 150 | 130 | 10 |  |
| -12×14 | $12 \times 14$ | 24 | 29 | 14 | 165 | 230 | 10 |  |
| -14×17 | $14 \times 17$ | 29 | 33 | 14 | 195 | 280 | 10 |  |
| RATCHET BOX END WRENCH SET (3pcs.) |  |  |  |  |  |  |  | mm |
| No. RM03 |  | Vg 640 ¢¢ 10 |  |  |  |  |  |  |

Ratchet Box End Wrench RM-10×12, $12 \times 14,14 \times 17$

* When the diameter is 14 mm or larger, the socket has 12 points.
- RATCHET BOX END WRENCH
- Thin and round shaped head for use in confined spaces.
- For light-load operation.
- The feed angle is $20^{\circ}$.
$40^{\text {ant }}$
on • ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY
OTHERWISE IT MAY CAUSE DAMAGE OR IDLING
- THIS IS ONLY FOR TEMPORARY FASTENINGS.

DO NOT USE IT FOR PERMANENT FASTENINGS.


- EXTRA-LONG RATCHET BOX END WRENCH (FLEX TYPE)

- 4SIZE STANDARD RATCHET BOX END WRENCH


4SIZE STANDARD RATCHET BOX END WRENCH mm

| No. | $\mathbf{S}_{1} \times \mathbf{S}_{\mathbf{2}}$ | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{T}$ | $\mathbf{L}$ | $\mathbf{V g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MR-0813 | $8 \times 12 \cdot 10 \times 13$ | 21 | 25 | 15 | 143 | 130 | 10 |  |
| $\mathbf{- 1 0 1 4}$ | $10 \times 13 \cdot 12 \times 14$ | 25 | 28 | 15 | 166 | 160 | 10 |  |

- The socket is thin enough to operate in narrow quarters.
- The grip, with its wave form, is easy to hold and apply load
- The green color is distinguishable in the workplace. it is also lightweight because it is made of plastic
$\lambda^{\text {caution }} \cdot$ ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY OTHERWISE IT MAY CAUSE DAMAGE OR IDLING
THIS IS ONLY FOR TEMPORARY FASTENINGS DO NOT USE IT FOR PERMANENT FASTENINGS.


## -4SIZE LONG RATCHET BOX END WRENCH



| 4SIZE LONG RATCHET BOX END WRENCH |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Nominal Size | $h_{1}$ | $\mathrm{h}_{2}$ | $h_{3}$ | $\mathrm{h}_{4}$ | $\mathrm{D}_{1} \mathrm{D}_{2}$ | T ${ }_{1}$ | T | L | Vg | $\oplus$ |  |
| MR-0813L | $8 \times 12 \cdot 10 \times 13$ | 10 | 17.5 | 15 | 17.5 | 2125 | 34.5 | 44.5 | 143 | 180 | 10 |  |
| -1014L | $10 \times 13 \cdot 12 \times 14$ | 15 | 18 | 15 | 30 | 2528 | 39.5 | 57.5 | 166 | 230 | 10 |  |
| - The socket is long enough to operate in deep quarters. <br> - The grip, with its wave form, is easy to hold and apply load. <br> - The green color is distinguishable in the workplace. It is also lightweight because it is made of plastic. |  |  |  |  |  |  |  |  |  |  |  |  |
| caution $\cdot$ ENSURE THAT THE SWITCH LEVER HAS BEEN SETPROPERLY,OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.•THIS IS ONLY FOR TEMPORARY FASTENINGS.DO NOT USE IT FOR PERMANENT FASTENINGS. |  |  |  |  |  |  |  |  |  |  |  |  |

## 2. CONVENTIONAL TOOLS



Open end wrench/combination wrench sets

- Carefully read the individual safety warnings for the items included within the set.
-When carrying the set, make sure the metal fasteners are locked on - If the set includes a holder, take care to avoid jamming your hands when taking tools from the holder.

Open end wrench/combination wrenches
Use wrenches that conform to the size of the bolts and nuts. Do not use by adding on pipes, etc.

- Firmly hold the bolts and nuts using the end of the tool mouth.
- The open end wrench can come loose when too much force is applied.
applied.
Take care not to allow the tool to slip off.
- Do not use this tool as a hammer

Do not apply strong impact on this tool by hitting it with a hammer, etc.

| OPEN END WRENCH SET(8pcs.) • (10pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TS208 | Fkg 1.1 | \& 1 |  |
| Open End Wrench | $\begin{array}{r} \text { S2-0550 } \\ 1921, \end{array}$ | $1012$ |  |

- Resin forming tray (L $444 \times W 184 \times \mathrm{H} 48 \mathrm{~mm}$ ) attached.

| No. TS210 | Fkg 1.6 | ¢ 1 |
| :---: | :---: | :---: |
| Open End Wrench | $\begin{array}{r} \text { S2-0550 } \\ 1719, \end{array}$ | $\begin{aligned} & \text { 1012, 1113, 1214, 1417, } \\ & 2224,2427, \end{aligned}$ |

- Resin forming tray (L444×W184×H48mm) attached.
- OPEN END WRENCH SET (8pcs.) • (10pcs.)


| OPEN END WRENCH SET (6pcs.) |  |  | mm |
| :---: | :---: | :---: | :---: |
| No. TS206 | Vg 550 | ¢ 1 |  |
| Open End Wrench | S2-0810, | 1113 |  |
| Holder | EHS-1 |  |  |
| No. TS206A | Vg 450 | ¢ 1 |  |
| Open End Wrench | S2-05507 | , 111 |  |
| Holder | EHS-1 |  |  |



| OPEN END WRENCH HOLDER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | H | h | W 1 | W ${ }^{\text {2 }}$ | T | Vg | eq |  |
| EHS-1 | 42 | 14 | 27 | 60 | 24 | 55 | 1 |  |

-OPEN END WRENCH HOLDER


-OPEN END WRENCH



| OPEN END WRENCH |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1 \times} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T 2 | L | Vg | $\oplus$ |  |
| S2-05507 | $5.5 \times 7$ | 12.5 | 15.5 | 3.5 | 3.5 | 102 | 15 | 5 |  |
| - 0607 | $6 \times 7$ | 13 | 15.5 | 3.5 | 3.5 | 102 | 15 | 5 |  |
| - 0608 | $6 \times 8$ | 13 | 17.5 | 4 | 4 | 107 | 18 | 5 |  |
| - 0708 | $7 \times 8$ | 15.5 | 17.5 | 4 | 4 | 112 | 20 | 5 |  |
| - 0809 | $8 \times 9$ | 17.5 | 19.5 | 4.5 | 4.5 | 118 | 30 | 5 |  |
| - 0810 | $8 \times 10$ | 17.5 | 21.5 | 4.5 | 4.5 | 122 | 40 | 5 |  |
| - 1011 | $10 \times 11$ | 21.5 | 23.5 | 5 | 5 | 133 | 45 | 5 |  |
| - 1012 | $10 \times 12$ | 21.5 | 25.5 | 5.5 | 5.5 | 138 | 60 | 5 |  |
| - 1013 | $10 \times 13$ | 21.5 | 27.5 | 6 | 6 | 143 | 60 | 5 |  |
| - 1014 | $10 \times 14$ | 21.5 | 29.5 | 6.5 | 6.5 | 148 | 65 | 5 |  |
| - 1113 | $11 \times 13$ | 23.5 | 27.5 | 6 | 6 | 147 | 65 | 5 |  |
| - 1214 | $12 \times 14$ | 25.5 | 29.5 | 6.5 | 6.5 | 157 | 75 | 5 |  |
| - 1315 | $13 \times 15$ | 27.5 | 31.5 | 7 | 7 | 164 | 90 | 5 |  |
| - 1317 | $13 \times 17$ | 27.5 | 36 | 7 | 7 | 168 | 100 | 5 |  |
| - 1417 | $14 \times 17$ | 29.5 | 36 | 7 | 7 | 173 | 105 | 5 |  |
| - 1618 | $16 \times 18$ | 33.5 | 38 | 8 | 8 | 188 | 135 | 5 |  |
| - 1719 | $17 \times 19$ | 36 | 40 | 7.5 | 7.5 | 195 | 145 | 5 |  |
| - 1721 | $17 \times 21$ | 36 | 44 | 8 | 8 | 203 | 170 | 5 |  |
| - 1921 | $19 \times 21$ | 40 | 44 | 8 | 8 | 218 | 195 | 5 |  |
| -1922 | $19 \times 22$ | 40 | 46 | 8.5 | 8.5 | 223 | 205 | 5 |  |
| - 2022 | $20 \times 22$ | 42 | 46 | 8.5 | 8.5 | 228 | 215 | 5 |  |
| -2123 | $21 \times 23$ | 44 | 48 | 8.5 | 8.5 | 233 | 240 | 5 |  |
| -2126 | $21 \times 26$ | 44 | 54 | 8.5 | 8.5 | 238 | 260 | 5 |  |
| - 2224 | $22 \times 24$ | 46 | 50 | 9 | 9 | 244 | 260 | 5 |  |
| -2326 | $23 \times 26$ | 48 | 54 | 9 | 9 | 248 | 300 | 5 |  |
| -2427 | $24 \times 27$ | 50 | 55.5 | 9 | 9 | 253 | 320 | 5 |  |
| - 2528 | $25 \times 28$ | 52 | 57.5 | 9.5 | 9.5 | 263 | 365 | 5 |  |
| - 2632 | $26 \times 32$ | 54 | 65.5 | 10.5 | 10.5 | 273 | 460 | 5 |  |
| - 2730 | $27 \times 30$ | 55.5 | 61.5 | 10 | 10 | 274 | 430 | 5 |  |
| -2732 | $27 \times 32$ | 55.5 | 65.5 | 10.5 | 10.5 | 284 | 480 | 5 |  |
| -2932 | $29 \times 32$ | 60 | 65.5 | 10.5 | 10.5 | 288 | 510 | 5 |  |
| - 3032 | $30 \times 32$ | 61.5 | 65.5 | 10.5 | 10.5 | 294 | 525 | 5 |  |
| - 3236 | $32 \times 36$ | 65.5 | 74 | 12 | 12 | 318 | 710 | 5 |  |
| - 3538 | $35 \times 38$ | 72 | 78 | 13.5 | 13.5 | 334 | 905 | 5 |  |
| - 3638 | $36 \times 38$ | 74 | 78 | 13.5 | 13.5 | 354 | 945 | 5 |  |
| -4146 | $41 \times 46$ | 84 | 94 | 14 | 14 | 399 | 1315 | 5 |  |

OPEN END WRENCH in

| No. | $\mathbf{S}_{1 \times} \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T1 | T2 | L | Vg | ¢ $¢$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S2-1/4 $\times 5 / 16$ | $6.3 \times 7.9$ | 13 | 17.5 | 4 | 4 | 107 | 18 | 5 |
| $-5 / 16 \times 3 / 8$ | $7.9 \times 9.5$ | 17.5 | 21.5 | 4.5 | 4.5 | 122 | 40 | 5 |
| $-3 / 8 \times 7 / 16$ | $9.5 \times 11.1$ | 21.5 | 23.5 | 5 | 5 | 133 | 45 | 5 |
| $-13 / 32 \times 1 / 2$ | $10.3 \times 12.7$ | 21.5 | 27.5 | 6 | 6 | 143 | 60 | 5 |
| $-7 / 16 \times 1 / 2$ | $11.1 \times 12.7$ | 23.5 | 27.5 | 6 | 6 | 147 | 65 | 5 |
| $-1 / 2 \times 9 / 16$ | $12.7 \times 14.2$ | 27.5 | 29.5 | 6.5 | 6.5 | 160 | 74 | 5 |
| $-9 / 16 \times 5 / 8$ | $14.2 \times 15.8$ | 29.5 | 33.5 | 7 | 7 | 169 | 97 | 5 |
| $-19 / 32 \times 11 / 16$ | $15 \times 17.4$ | 31.5 | 36 | 7 | 7 | 175 | 106 | 5 |
| $-5 / 8 \times 11 / 16$ | $15.8 \times 17.4$ | 33.5 | 36 | 7 | 7 | 177 | 110 | 5 |
| $-5 / 8 \times 3 / 4$ | $15.8 \times 19$ | 33.5 | 40 | 7.5 | 7.5 | 192 | 133 | 5 |
| $-11 / 16 \times 3 / 4$ | $17.4 \times 19$ | 36 | 40 | 7.5 | 7.5 | 195 | 145 | 5 |
| $-3 / 4 \times 25 / 32$ | $19 \times 19.8$ | 40 | 42 | 8 | 8 | 216 | 177 | 5 |
| $-3 / 4 \times 13 / 16$ | $19 \times 20.6$ | 40 | 44 | 8 | 8 | 218 | 195 | 5 |
| $-25 / 32 \times 7 / 8$ | $19.8 \times 22.2$ | 42 | 46 | 8.5 | 8.5 | 228 | 215 | 5 |
| $-13 / 16 \times 7 / 8$ | $20.6 \times 22.2$ | 44 | 46 | 8.5 | 8.5 | 231 | 224 | 5 |
| $-15 / 16 \times 1$ | $23.8 \times 25.4$ | 50 | 52 | 9 | 9 | 249 | 300 | 5 |
| $-1-\times 1-1 / 16$ | $25.4 \times 26.9$ | 52 | 55.5 | 9 | 9 | 256 | 327 | 5 |
| $-1-1 / 8 \times 1-1 / 4$ | $28.5 \times 31.7$ | 60 | 65.5 | 10.5 | 10.5 | 288 | 510 | 5 |

-SLIM TYPE OPEN END WRENCH


| SLIM TYPE OPEN END WRENCH (S20) |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | T | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| S20-10×12 | $10 \times 12$ | 21 | 26 | 4 | 210 | 64 | 5 |  |
| $-12 \times 10$ | $12 \times 10$ | 26 | 21 | 4 | 210 | 64 | 5 |  |
| $-12 \times 14$ | $12 \times 14$ | 26 | 30 | 4 | 215 | 75 | 5 |  |
| $-14 \times 12$ | $14 \times 12$ | 30 | 26 | 4 | 215 | 75 | 5 |  |
| -17×19 | $17 \times 19$ | 36 | 40 | 4.5 | 235 | 120 | 5 |  |
| $-19 \times 17$ | $19 \times 17$ | 40 | 36 | 4.5 | 235 | 120 | 5 |  |
| SLIM TYPE OPEN END WRENCH SET (6pcs.) |  |  |  |  |  |  |  | mm |
| No. S206 |  |  | Vg 544 ¢¢ 1 |  |  |  |  |  |
| Slim Type Open End Wrench (mm) |  |  |  |  |  |  |  |  |

- Set of each 2 pcs. of same size combination with different angles.
- Fit to use in small spaces for tightening/loosening double nuts (Fig.1)


| FLEX－SOCKET SPANNER |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | T | L | Vg | $\oplus$ |  |
| FBS－10 | 10 | 22 | 14 | 6 | 180 | 66 | 5 |  |
| －12 | 12 | 26 | 17 | 6.5 | 205 | 100 | 5 |  |
| －13 | 13 | 28 | 18 | 6.5 | 210 | 105 | 5 |  |
| －14 | 14 | 29 | 19 | 6.5 | 230 | 140 | 5 |  |
| －17 | 17 | 36 | 23 | 7 | 250 | 200 | 5 |  |
| －19 | 19 | 40 | 26 | 7.5 | 265 | 230 | 5 |  |
| FLEX－SOCKET SPANNER SET（6pcs．） |  |  |  |  |  |  |  | mm |
| No．FBS6 |  | Vg 800 |  | ¢ 1 |  |  |  |  |
| Flex－Socket Spanner |  | FBS－10，12，13，14，17， 19 |  |  |  |  |  |  |

－FLEX－SOCKET SPANNER
Acaution • DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART．

| FLEX－HEAD SOCKET |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | $\mathbf{S}_{1 \times} \times \mathbf{S}_{2}$ | D 1 | $\mathrm{D}_{2}$ | A | L | Vg | $\oplus$ |  |
| FBH1－8× 9 | $8 \times 9$ | 12 | 13.5 | 5.5 | 200 | 80 | 10 |  |
| － $8 \times 10$ | $8 \times 10$ | 12 | 14.5 | 5.5 | 200 | 90 | 10 |  |
| －10×12 | $10 \times 12$ | 14.5 | 17 | 5.5 | 215 | 120 | 10 |  |
| －12×14 | $12 \times 14$ | 17 | 20 | 6.5 | 230 | 160 | 10 |  |
| －13×14 | $13 \times 14$ | 18.5 | 20 | 6.5 | 230 | 170 | 10 |  |
| －14×17 | $14 \times 17$ | 20 | 23.5 | 7.5 | 245 | 220 | 10 |  |
| －17×19 | $17 \times 19$ | 23.5 | 26 | 7.5 | 250 | 250 | 10 |  |
| FLEX－HEAD SOCKET SET（3pcs．） |  |  |  |  |  |  |  | mm |
| No．FBH103 |  |  | Vg 370 | ¢⿴囗 1 |  |  |  |  |
| Flex－Head Socket |  |  | FBH1－8×9， $10 \times 12,13 \times 14$ |  |  |  |  |  |
| －Convenient for use in narrow space and for quick turning． |  |  |  |  |  |  |  | WEEFIT． |

－FLEX－HEAD SOCKET
$\^{\text {caution }} \cdot$ DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART．

| COMBINATION WRENCH SET（8pcs．）•（10pcs．）•（12pcs．） | mm |  |
| :--- | :--- | :--- | :--- |
| No．TMS208 | Vkg 1 | $\oplus 1$ |
| Combination Wrench | MS2－07，08，10，12，13，14，17，19 |  |

－Pla．tray（L444×W184×H48mm）POWERFIT

| No．TMS210 | Vkg 1.1 | $\oplus 1$ |  |
| :---: | :---: | :---: | :---: |
| Combination Wrench | MS2－055，07，08，10，12，13，14，15，17， 19 |  |  |
| －Pla．tray（L444×W $184 \times \mathrm{H} 48 \mathrm{~mm}$ ） |  |  |  |
|  |  |  |  |
| No．TMS212 | Vkg 1.6 ¢ 1 |  |  |
| Combination Wrench | MS2－055，07，08，10，12，13，14，15，17，19，21， 22 |  |  |

－Pla．tray（L444×W184×H48mm）
POWER
COMBINATION WRENCH SET（8pcs．）in

## No．TMS208B

Fkg 1
\＆日 1
Combination Wrench in MS2－ $1 / 4,3 / 8,7 / 16,1 / 2,9 / 16,5 / 8,11 / 16,3 / 4$
－Pla．tray（L444×W184×H48mm）
－COMBINATION WRENCH SET（8pcs．）（10pcs．）（12pcs．）


TMS208


TMS210


TMS212

| COMBINATION WRENCH |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S* | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | T1 | T ${ }_{2}$ | L | $\nabla \mathrm{g}$ | ¢ $¢$ |  |
| MS2-032 | 3.2 | 8 | 7.5 | 3 | 3 | 75 | 6 | 5 |  |
| - 04 | 4 | 9 | 8.5 | 3 | 4 | 80 | 8 | 5 |  |
| - 045 | 4.5 | 10 | 9 | 3 | 4 | 85 | 10 | 5 |  |
| - 05 | 5 | 11 | 9.5 | 3 | 4.5 | 90 | 11 | 5 |  |
| - 055 | 5.5 | 12.5 | 10 | 3 | 4.5 | 96 | 13 | 5 |  |
| - 06 | 6 | 13 | 10.5 | 3 | 4.5 | 96 | 14 | 5 |  |
| - 07 | 7 | 15.5 | 12 | 3.5 | 5 | 111 | 20 | 5 |  |
| - 08 | 8 | 17.5 | 13 | 4 | 5.5 | 126 | 28 | 5 |  |
| - 09 | 9 | 19.5 | 14.5 | 4.5 | 6 | 136 | 36 | 5 |  |
| - 10 | 10 | 21.5 | 16 | 4.5 | 6.5 | 151 | 42 | 5 |  |
| -11 | 11 | 23.5 | 17 | 5 | 7 | 161 | 55 | 5 |  |
| -12 | 12 | 25.5 | 18 | 5.5 | 7.5 | 170 | 65 | 5 |  |
| -13 | 13 | 27.5 | 19 | 6 | 8.5 | 188 | 85 | 5 |  |
| -14 | 14 | 29.5 | 20.5 | 6 | 9.5 | 190 | 98 | 5 |  |
| - 15 | 15 | 31.5 | 22.5 | 7 | 10 | 200 | 119 | 5 |  |
| - 16 | 16 | 33.5 | 23.5 | 7 | 10.5 | 215 | 134 | 5 |  |
| -17 | 17 | 36 | 25 | 7 | 10.5 | 225 | 153 | 5 |  |
| - 18 | 18 | 38 | 26.5 | 8 | 11.5 | 241 | 184 | 5 |  |
| - 19 | 19 | 40 | 27.5 | 7.5 | 12 | 256 | 205 | 5 |  |
| -20 | 20 | 42 | 29.5 | 8 | 12 | 271 | 234 | 5 |  |
| -21 | 21 | 44 | 30.5 | 8 | 13 | 289 | 267 | 5 |  |
| -22 | 22 | 46 | 32 | 8.5 | 13.5 | 304 | 305 | 5 |  |
| - 23 | 23 | 48 | 33.5 | 8.5 | 14.5 | 311 | 331 | 5 |  |
| -24 | 24 | 50 | 35 | 9 | 15 | 337 | 380 | 5 |  |
| -25 | 25 | 52 | 36 | 9 | 15.5 | 351 | 423 | 5 |  |
| -26 | 26 | 54 | 37.5 | 9 | 16 | 371 | 466 | 5 |  |
| -27 | 27 | 55.5 | 39 | 9 | 16.5 | 381 | 502 | 5 |  |
| -28 | 28 | 57.5 | 40.5 | 9.5 | 17 | 401 | 561 | 5 |  |
| -29 | 29 | 60 | 43.5 | 10 | 18 | 421 | 650 | 1 |  |
| -30 | 30 | 61.5 | 43.5 | 10 | 18 | 446 | 687 | 1 |  |
| -31 | 31 | 63.5 | 45.5 | 10.5 | 18 | 462 | 790 | 1 |  |
| - 32 | 32 | 65.5 | 46.5 | 10.5 | 18 | 471 | 836 | 1 |  |
| - 33 | 33 | 67.5 | 47.5 | 11 | 20 | 477 | 904 | 1 |  |
| - 34 | 34 | 69.5 | 52 | 11 | 21 | 480 | 1030 | 1 |  |
| - 35 | 35 | 72 | 52 | 12 | 21 | 481 | 1070 | 1 |  |
| - 36 | 36 | 74 | 52 | 12 | 21 | 501 | 1155 | 1 |  |
| - 38 | 38 | 78 | 54.5 | 13.5 | 22 | 521 | 1382 | 1 |  |
| -41 | 41 | 84 | 59 | 14 | 24.5 | 542 | 1680 | 1 |  |
| -46 | 46 | 94 | 66 | 14 | 26 | 562 | 2142 | 1 |  |

-COMBINATION WRENCH


| COMBINATION WRENCH |  |  |  |  |  |  |  |  | in |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S* | $\mathrm{D}_{1}$ | $\mathrm{D}_{2}$ | T ${ }_{1}$ | T ${ }_{2}$ | L | Vg | $\oplus$ |  |
| MS2- $1 / 8$ | 3.1 | 8 | 7.5 | 3 | 3 | 75 | 6 | 5 |  |
| -5/32 | 3.9 | 9 | 8.5 | 3 | 4 | 80 | 8 | 5 |  |
| -3/16 | 4.7 | 10 | 9 | 3 | 4 | 85 | 10 | 5 |  |
| $-13 / 64$ | 5.1 | 11 | 9.5 | 3 | 4.5 | 90 | 11 | 5 |  |
| -7/32 | 5.5 | 12.5 | 10 | 3 | 4.5 | 96 | 13 | 5 |  |
| -15/64 | 5.9 | 13 | 10.5 | 3 | 4.5 | 96 | 14 | 5 |  |
| -1/4 | 6.3 | 13 | 10.5 | 3 | 4.5 | 96 | 14 | 5 |  |
| -9/32 | 7.1 | 15.5 | 12 | 3.5 | 5 | 111 | 20 | 5 |  |
| -5/16 | 7.9 | 17.5 | 13 | 4 | 5.5 | 126 | 28 | 5 |  |
| - $-11 / 32$ | 8.7 | 19.5 | 14.5 | 4.5 | 6 | 136 | 36 | 5 |  |
| -3/8 | 9.5 | 21.5 | 16 | 4.5 | 6.5 | 151 | 42 | 5 |  |
| $-7 / 16$ | 11.1 | 23.5 | 17 | 5 | 7 | 161 | 55 | 5 |  |
| -1/2 | 12.7 | 27.5 | 19 | 6 | 8.5 | 188 | 85 | 5 |  |
| -9/16 | 14.2 | 29.5 | 20.5 | 6 | 9.5 | 190 | 98 | 5 |  |
| - $19 / 32$ | 15 | 31.5 | 22.5 | 7 | 10 | 200 | 119 | 5 |  |
| -5/8 | 15.8 | 33.5 | 23.5 | 7 | 10.5 | 215 | 134 | 5 |  |
| - $11 / 16$ | 17.4 | 36 | 25 | 7 | 10.5 | 225 | 153 | 5 |  |
| -3/4 | 19 | 40 | 27.5 | 7.5 | 12 | 256 | 205 | 5 |  |
| -25/32 | 19.8 | 42 | 29.5 | 8 | 12 | 271 | 234 | 5 |  |
| $-13 / 16$ | 20.6 | 44 | 30.5 | 8 | 13 | 289 | 267 | 5 |  |
| -7/8 | 22.2 | 46 | 32 | 8.5 | 13.5 | 304 | 305 | 5 |  |
| $-15 / 16$ | 23.8 | 50 | 35 | 9 | 15 | 337 | 380 | 5 |  |
| -1 | 25.4 | 52 | 36 | 9 | 15.5 | 351 | 423 | 5 |  |
| -1-1/16 | 26.9 | 55.5 | 39 | 9 | 16.5 | 381 | 502 | 5 |  |
| -1-1/8 | 28.5 | 60 | 43.5 | 10 | 18 | 421 | 650 | 5 |  |
| -1-3/16 | 30.1 | 61.5 | 43.5 | 10 | 18 | 446 | 687 | 5 |  |
| -1-1/4 | 31.7 | 65.5 | 46.5 | 10.5 | 18 | 471 | 836 | 5 |  |
| $-1.5 / 16$ | 33.3 | 67.5 | 47.5 | 11 | 20 | 477 | 904 | 5 |  |
| $-1-3 / 8$ | 34.9 | 72 | 52 | 12 | 21 | 481 | 1070 | 1 |  |
| -1-7/16 | 36.5 | 74 | 52 | 12 | 21 | 501 | 1155 | 1 |  |
| -1-1/2 | 38.1 | 78 | 54.5 | 13.5 | 22 | 521 | 1382 | 1 |  |

* $13 / 64$ in and below the offset side is the hexagonal diameter.

| RATCHET COMBINATION WRENCH STRAIGHT TYPE |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D1 | $\mathrm{D}_{2}$ | T1 | T2 | Feed | L | Vg | $\oplus$ |  |
| MSR1A-08 | 8 | 16.2 | 16.4 | 4 | 6.5 | $6^{\circ}$ | 140 | 40 | 5 |  |
| MSR1A-09 | 9 | 18.2 | 18.3 | 4.4 | 6.9 | $6^{\circ}$ | 150 | 50 | 5 |  |
| MSR1A-10 | 10 | 20.5 | 20 | 4.8 | 7.3 | $5^{\circ}$ | 159 | 50 | 5 |  |
| MSR1A-11 | 11 | 22.6 | 21.4 | 5.2 | 7.7 | $5^{\circ}$ | 165 | 70 | 5 |  |
| MSR1A-12 | 12 | 24.6 | 22.6 | 5.5 | 8.2 | $5^{\circ}$ | 172 | 70 | 5 |  |
| MSR1A-13 | 13 | 26.7 | 24.5 | 5.8 | 8.6 | $5^{\circ}$ | 178 | 80 | 5 |  |
| MSR1A-14 | 14 | 28.8 | 27 | 6.2 | 9 | $5^{\circ}$ | 191 | 110 | 5 |  |
| MSR1A-15 | 15 | 30.8 | 28.2 | 6.5 | 9.4 | $5^{\circ}$ | 200 | 120 | 5 |  |
| MSR1A-16 | 16 | 33.2 | 30.3 | 6.8 | 9.9 | $5^{\circ}$ | 208 | 140 | 5 |  |
| MSR1A-17 | 17 | 35.1 | 31.6 | 7.2 | 10.3 | $5^{\circ}$ | 225 | 170 | 5 |  |
| MSR1A-18 | 18 | 37.2 | 32.3 | 7.7 | 10.7 | $5^{\circ}$ | 236 | 190 | 5 |  |
| MSR1A-19 | 19 | 39.3 | 33.7 | 8.2 | 11.2 | $5^{\circ}$ | 248 | 230 | 5 |  |
| MSR1A-21 | 21 | 46.2 | 40.1 | 9 | 13 | $4^{\circ}$ | 290 | 340 | 5 |  |
| MSR1A-22 | 22 | 46.2 | 40.1 | 9 | 13 | $4^{\circ}$ | 290 | 340 | 5 |  |
| MSR1A-24 | 24 | 51.5 | 46.5 | 10 | 14.5 | $4^{\circ}$ | 323 | 500 | 5 |  |

- Ratchet is capable of final tightening.
- $5^{\circ}$ feed that's capable of smooth continuous work in tight spaces (excluding below 9 mm and above 21 mm ).
- Working direction can be seen at a glance with the arrow display
- Nonslip grip design is adopted.
- RATCHET COMBINATION WRENCH (STRAIGHT TYPE)

- RATCHET COMBINATION WRENCH (OFFSET TYPE)


SEMI-SHORT RATCHET COMBINATION WRENCH

| No. | S | D1 | D2 | T1 | T2 | Feed | L | V g | ¢ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MSR1A-08F | 8 | 16.2 | 16.4 | 4.3 | 6.5 | $6^{\circ}$ | 127 | 40 | 5 |  |
| MSR1A-10F | 10 | 20.5 | 20 | 5 | 7.3 | $5^{\circ}$ | 136 | 60 | 5 |  |
| MSR1A-12F | 12 | 24.6 | 23 | 5.8 | 8.2 | $5^{\circ}$ | 148 | 80 | 5 |  |
| MSR1A-13F | 13 | 26.7 | 25 | 6.1 | 8.6 | $5^{\circ}$ | 155 | 100 | 5 |  |
| MSR1A-14F | 14 | 28.8 | 27 | 6.4 | 9 | $5^{\circ}$ | 162 | 110 | 5 |  |
| MSR1A-17F | 17 | 35.1 | 31.6 | 7.6 | 10.3 | $5^{\circ}$ | 191 | 170 | 5 |  |
| MSR1A-19F | 19 | 39.3 | 33.7 | 8.6 | 11.2 | $5^{\circ}$ | 216 | 230 | 5 |  |

- Intermediate size of standard and short that considered the operability in tight spaces.
- Ratchet is capable of final tightening
- $5^{\circ}$ feed that's capable of smooth continuous work in tight spaces (excluding 8mm)
- Working direction can be seen at a glance with the arrow display
- Head tilt angle is $180^{\circ}$.
- Nonslip grip design is adopted
$\bigwedge^{\text {caution } \cdot \text { Since the joint is sensitive to impact and twist, please be careful not to apply too }}$ much force.

SEMI-SHORT RATCHET COMBINATION WRENCH (FLEX TYPE)


SHORT RATCHET COMBINATION WRENCH OFFSET TYPE

| No. | $\mathbf{S}$ | $\mathbf{D}_{1}$ | $\mathbf{D}_{2}$ | $\mathbf{T}_{1}$ | $\mathbf{T}_{2}$ | Feed | $\mathbf{L}$ | $\mathbf{\nabla g}$ | $\epsilon 日$ |  |
| :--- | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MSR2SA-08 | 8 | 16.2 | 16.4 | 3.8 | 6.4 | $6^{\circ}$ | 90 | 30 | 5 |  |
| MSR2SA-10 | 10 | 20.5 | 20 | 4.8 | 7.3 | $5^{\circ}$ | 95 | 40 | 5 |  |
| MSR2SA-12 | 12 | 24.6 | 22.6 | 5.5 | 8.2 | $5^{\circ}$ | 106 | 50 | 5 |  |
| MSR2SA-13 | 13 | 26.7 | 24.5 | 5.8 | 8.6 | $5^{\circ}$ | 108 | 60 | 5 |  |
| MSR2SA-14 | 14 | 28.8 | 27 | 6.2 | 9 | $5^{\circ}$ | 115 | 70 | 5 |  |
| MSR2SA-17 | 17 | 35.1 | 31.6 | 7 | 10.3 | $5^{\circ}$ | 127 | 110 | 5 |  |

- Ratchet is capable of final tightening.
- $5^{\circ}$ feed that's capable of smooth continuous work in tight spaces (excluding 8 mm )
- Rotation direction can be switched by lever
- Nonslip grip design is adopted.
$\lambda^{\text {caution } \cdot \text { Please operate the switching lever on left and right securely since it may be the }}$ cause of damage or idling.
-SHORT RATCHET COMBINATION WRENCH (OFFSET TYPE)

－SHORT RATCHET COMBINATION WRENCH（FLEX TYPE）


| SHORT RATCHET COMBINATION WRENCH |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | D1 | $\mathrm{D}_{2}$ | T1 | T2 | L | Vg | \＆ |  |
| MSR2S－08F | 8 | 17.3 | 18 | 4 | 7.4 | 90 | 39 | 5 |  |
| MSR2S－10F | 10 | 21.5 | 21 | 4.5 | 8.4 | 110 | 58 | 5 |  |
| MSR2S－11F | 11 | 23.5 | 22 | 5 | 8.4 | 115 | 67 | 5 |  |
| MSR2S－12F | 12 | 25.5 | 23.5 | 5.5 | 8.4 | 125 | 79 | 5 |  |
| MSR2S－13F | 13 | 27.5 | 25 | 6 | 8.4 | 135 | 94 | 5 |  |
| MSR2S－14F | 14 | 29.5 | 26.5 | 6 | 8.4 | 140 | 104 | 5 |  |
| MSR2S－15F | 15 | 31.4 | 28 | 7 | 8.4 | 145 | 119 | 5 |  |
| MSR2S－16F | 16 | 33.4 | 29 | 7 | 10 | 155 | 144 | 5 |  |
| MSR2S－17F | 17 | 36 | 30.5 | 7 | 10 | 165 | 163 | 5 |  |
| MSR2S－18F | 18 | 38 | 32 | 8 | 11.4 | 175 | 201 | 5 |  |
| MSR2S－19F | 19 | 40 | 34 | 8 | 11.4 | 185 | 221 | 5 |  |


| SHORT RATCHET COMBINATION WRENCH SET（6pcs．） |  |
| :--- | :--- |
| No．TMSR2S06 $\quad$ Fg 540 | \＆ 1 |
| Short Ratchet Combination Wrench <br> （Flex Type） | MSR2S－08F，10F，12F，13F，14F 17F | （Flex Type）

MSR2S－08F，10F，12F，13F，14F 17F
－Ratchet is capable of final tightening．
Since the span of the ratchet offset wrench and hinge sections is shortened and thickness is designed thin and flat，smooth continuous work in tight spaces is possible．
－Tooth number of 72 and $5^{\circ}$ ratchet feed allows the fine feeding．
－Size is displayed on the head where it is easily visible．Working direction can also be seen at a glance with the arrow display．
$\lambda^{\text {caution }- \text { Since the joint is sensitive to impact and twist，please be careful not to apply too }}$ much force．
－RATCHET COMBINATION WRENCH \＆SOCKET SET（WITH 3／8＂sq．DRIVE ADAPTER）


RATCHET COMBINATION WRENCH \＆SOCKET SET
No．TBZ1407 $\quad$ g 205 ध日 1 （1 Carton）

Drive adapter for Ratchet Combination Wrench BZ14－BA3
Socket for 14mm Ratchet（12pt．）BZ14－08W，10W，12W，13W，14W Ratchet Combination Wrench MSR2S－14F
－With a plastic case and storage tray that are convenient for storage．

Combination example（MSR2S－14F＋BZ14－BA3）

－RATCHET COMBINATION WRENCH \＆ SOCKET SET


| RATCHET COMBINATION WRENCH $\&$ SOCKET SET |  |
| :--- | :--- |
| No．TBZ1406 | Vg 185 \＆⿴ 1 （1 Carton） |
| Socket for 14 mm Ratchet（12pt．） | BZ14－08W，10W，12W，13W，14W |
| Ratchet Combination Wrench | MSR2S－14F |
| ．With p pastic |  |

－With a plastic case and storage tray that are convenient for storage．


Combination example（MSR2S－14F＋BZ14－12W）

## －SOCKET FOR 14mm RATCHET



| SOCKET FOR 14mm RATCHET |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | S | D | L | H | d | Vg | eq |  |
| BZ14－08W | 8 | 12.2 | 19 | 5.5 | 6 | 17 | 5 |  |
| BZ14－10W | 10 | 14.7 | 19 | 5.5 | 9 | 17 | 5 |  |
| BZ14－12W | 12 | 17 | 19 | 7.5 | 9 | 17 | 5 |  |
| BZ14－13W | 13 | 18.5 | 20 | 7.5 | 9 | 20 | 5 |  |
| BZ14－14W | 14 | 20 | 20.5 | 8 | 10.5 | 20 | 5 |  |

－By combining with a 14 mm ratchet combination wrench or ratchet offset wrench，both the outer diameter and height become compact，making it effective in small spaces．
It can be used for long and protruded bolts since the socket has a through hole．

－RATCHET BOX END WRENCH 3／8＂sq． DRIVE ADAPTER


| 3／8＂sq．DRIVE ADAPTOR |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | D | L | $\ell$ | $\boldsymbol{\nabla g}$ | $\in 日$ |  |  |
| BZ14－BA3 | 16.1 | 23.4 | 20.5 | 20 | 5 |  |  |

－By combining with a 14 mm ratchet
combination wrench or ratchet offset wrench，
various $3 / 8$＂sq．sockets and bit sockets can be used．
With the adoption of union mechanism，socket can be held securely．



## PROFIT ${ }^{\circledR}$ tool

The professional mechanic is expected to conduct high quality work in a confined space operating environment. Previous tools make working in a confined space difficult. Mechanics prefer to be able to work from various angles without changing the tool. Precision tools prioritizing usability have been developed in order to make this possible. Weight and excessive mass has been shed from the extremely slim tool body and open end wrenches and offsets have identical diameters with differing angles. The tool for the discerning professional who can feel the torque with experience.


OPROFIT® TOOL BOX END WRENCH \& OPEN END WRENCH SET (6pcs.)


| PROFIT® TOOL BOX END WRENCH \& OPEN END WRENCH SET (6pcs.) mm |  |  |  |
| :---: | :---: | :---: | :---: |
| No. SM306 | Vg 320 | ¢ 5 |  |
| Open End Wrenches |  | S30-10, 12, 14 |  |
| Box-End Wrenches |  | M30-10, 12, 14 |  |

- Each set includes Box-End and Open-End wrenches.


OPROFIT® TOOL BOX END WRENCH


OPROFIT® TOOL COMBINATION WRENCH


| PROFIT ${ }^{\text {® }}$ OOL OPEN END WRENCH |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D | T | L | Vg | $\epsilon$ |  |
| S30-8 | 8 | 19 | 3 | 120 | 30 | 10 |  |
| -10 | 10 | 22 | 3.5 | 130 | 35 | 10 |  |
| -12 | 12 | 27 | 4.3 | 140 | 53 | 10 |  |
| -13 | 13 | 29 | 4.5 | 150 | 60 | 10 |  |
| -14 | 14 | 30 | 4.6 | 160 | 68 | 10 |  |
| -15 | 15 | 33 | 4.7 | 170 | 80 | 10 |  |
| -17 | 17 | 36 | 4.8 | 185 | 105 | 10 |  |
| -19 | 19 | 40 | 5 | 200 | 125 | 10 |  |

## PROFIT® TOOL OPEN END WRENCH SET (5pcs.)

## No. TS305 $\quad$ g 380 \&

Profit TооІтм Open End Wrench S30-8, 10, 12, 13, 14
Plastic Case L215×W120×H45mm

- Placed in the tray and housed in a transparent plastic case
- Extra thin type open end wrench with one bent end and one tapered edge end. (Fig.1)
- The diameter is limited to one size and set with a 25 degree tilt angle on one end only.

Convenient for use on double nuts on various machineries.

- Effective in places where it's difficult to use conventional wrenches, such as near surroundings of automobile carburetors and manifolds. Particularly effective in tight spaces or with thin bolts and nuts. (Fig.2)
COMPARISON OF TAPERED SHAPE ON THE TIP (to the KTC's conventional shape)

*PROFIT is a registered trademark of KYOTO TOOL CO., LTD.

., LTD

| PROFIT ${ }^{\text {® }}$ TOOL COMBINATION WRENCH |  |  |  |  |  |  |  |  |  | mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | S | D 1 | $\mathrm{D}_{2}$ | T1 | T 2 | L |  | Vg | ¢ $¢$ |  |
| MS30-8 | 8 | 18 | 11.5 | 2.5 | 4.5 | 125 | $18^{\circ}$ | 20 | 10 |  |
| -10 | 10 | 21.5 | 14.5 | 3 | 5.5 | 150 | $15^{\circ}$ | 30 | 10 |  |
| -12 | 12 | 26 | 17.5 | 3.8 | 6.5 | 170 | $13^{\circ}$ | 50 | 10 |  |
| -13 | 13 | 28.5 | 18.5 | 4 | 7 | 185 | $12^{\circ}$ | 60 | 10 |  |
| -14 | 14 | 29.5 | 20 | 4.1 | 7.5 | 200 | $11^{\circ}$ | 80 | 10 |  |
| -15 | 15 | 32 | 21 | 4.2 | 8 | 215 | $10^{\circ}$ | 90 | 10 |  |
| -17 | 17 | 36 | 24 | 4.3 | 9 | 240 | $9^{\circ}$ | 125 | 10 |  |
| -19 | 19 | 40 | 26.5 | 4.5 | 10 | 260 | $9^{\circ}$ | 155 | 10 |  |
|  |  |  |  |  |  |  |  |  |  | OWERTIT |
| PROFIT ${ }^{\text {( }}$ OOOL COMBINATION WRENCH SET (5pcs.) |  |  |  |  |  |  |  |  |  | mm |
| No. TMS305 |  |  |  | Vg 440 |  | ¢¢ 1 |  |  |  |  |
| Open-End Wrenches |  |  |  | MS30-8, 10, 12, 13, 14 |  |  |  |  |  |  |
| Plastic Case L187×W190×H44mm |  |  |  |  |  |  |  |  |  |  |

- Placed in the tray and housed in a transparent plastic case.

The closed end is designed to have Power Fite.
Slim in form: designed in pursuit of thin lightweight wrenches.
Shaft designed to be tapered for good torque transmission and ductility. - Shaft length designed to be optimal for sufficient fastening torque.

| Open End: | Closed End: |
| :---: | :---: |
| - The swiveling angle of the opening is set to <br> 15 degrees, allowing both sides to be used. <br> - The tapered tip reduces the cases of insufficient contact. | - The offset angle of the shaft is determined for each size, allowing effective transmission of torque and easy operation. |
| The jaw holds the bolt/nut firmly. | The height is to 35 mm allowing a hand to get in. |
|  |  |

*PROFIT® is a registered trademark of KYOTO TOOL CO., LTD.

## 2. CONVENTIONAL TOOLS

DO NOT EXTEND A WRENCH BY CONNECTING A PIPE, ETC.

- FIT THE BOLT OR NUT COMPLETELY INTO THE DEEP PART OF THE SOCKET.
- DO NOT USE A WRENCH AS A SUBSTITUTE FOR A HAMMER.
- DO NOT APPLY IMPACT BY HITTING WITH A HAMMER, ETC.

| T-SHAPED WRENCH |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  |  |  |  |  |  |
| TH (Hexagonal) |  |  |  |  |  |  |  |  |  |
| - $\mathbf{8}$ |  |  |  |  |  |  |  |  |  |

- Size marked on the top of the handle for easy recognition.


| T-SHAPED WRENCH WITH SHORT HANDLE |
| :--- |
| No. |
| SH (Hexagonal) |
| TH $\mathbf{8 N}$ |
| $\mathbf{- 1 0 N}$ |

- Short handle for quick turning.


OFLEX T-SHAPED WRENCH
(Socket is magnetised)


FLEX T-SHAPED WRENCH

| No. | S (Hexagonal) | D | $\ell$ | L | $\boldsymbol{\nabla} g$ | $\in q$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| THF2-10 | 10 | 15 | 180 | 330 | 400 | 10 |  |
| -12 | 12 | 17 | 180 | 330 | 405 | 10 |  |
| -13 | 13 | 19 | 180 | 330 | 410 | 10 |  |
| -14 | 14 | 20 | 180 | 335 | 410 | 10 |  |
| -17 | 17 | 24 | 180 | 335 | 430 | 10 |  |



## OFLEX T-SHAPED WRENCH (LONG)

(Socket is magnetised)


FLEX T-SHAPED WRENCH (LONG)

| No. | S (Hexagonal) | D | $\boldsymbol{\ell}$ | $\mathbf{L}$ | $\mathbf{V g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| THF2-10L | 10 | 15 | 180 | 700 | 680 | 10 |  |
| -12L | 12 | 17 | 180 | 700 | 680 | 10 |  |
| -13L | 13 | 19 | 180 | 700 | 690 | 10 |  |
| -14L | 14 | 20 | 180 | 705 | 690 | 10 |  |
| -17L | 17 | 24 | 180 | 705 | 700 | 10 |  |

! ${ }^{\text {CAution. DO NOT APPLY EXCESSIVE POWER ON THE JOINT PART. }}$

OCROSS RIM WRENCH



| CROSS RIM WRENCH |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | $\mathbf{S}_{1} \times \mathbf{S}_{2} \times \mathbf{S}_{3} \times \mathbf{S}_{4}$ (Hexagonal) | $\mathrm{D}_{1} \times \mathrm{D}_{2} \times \mathrm{D}_{3} \times \mathrm{D}_{4}$ | L | Vkg |  |
| XH-14-21 | $14 \times 17 \times 19 \times 21$ | $20 \times 25 \times 29 \times 31$ | 400 | 1.3 | 10 |
| -17-23 | $17 \times 19 \times 21 \times 23$ | $25 \times 29 \times 31 \times 33$ | 400 | 1.5 | 10 |
| -19-26 | $19 \times 21 \times 23 \times 26$ | $29 \times 31 \times 33 \times 37$ | 400 | 1.5 | 10 |
| -19-27 | $19 \times 22 \times 24 \times 27$ | $29 \times 32 \times 35 \times 39$ | 400 | 1.6 | 10 |

Note: Please refer below pages for Drive Tools.

$1 / 4^{\prime \prime}$
sq.
DP. 53


3/8"
| 1 P. 63

(1/2" ${ }^{\text {sq. }}$. $\mid>\mathrm{P} .71$

$3 / 4^{\prime \prime}$
sq.
| 1 P. 76

## 2. CONVENTIONAL TOOLS

Screwdrivers

- Do not use if there is a live electric current. The plastic on the grip does not provide insulation
against electrical current.


■Other screwdrivers

■Palm screwdriver I| P. 138
A soft grip that reduces fatigue.
A hexagonal bolster is attached when high torque for larger sizes is needed.

■Plastic grip screwdriver I P P. 138
Acetyloid plastic grip with high durability. A powerful piercing type screwdriver with a black finish using special steel in the shaft.

■Soft grip screwdriver |>P. 143
The screwdriver employs a handle that is easy to grip and turn while applying force in pursuit of user-friendliness. Careful consideration has been provided in selecting grip material by using environmentally-friendly wood and plastic.

■Wooden grip screwdriver |>P. 145
Conventional screwdriver using natural timber for a soft, gentle grip. Wide grooves have been designed in 4 sections for the purpose of improved grip, concentrating the application of strength by the thumb and little finger, facilitating gripping and greater power for use.

Standard screwdriver (21t Century Version Tools) P. 137
The square shaft allows for easy delivery of high torque while being effective in the direction it is being pushed in. A double format consisting of environmentally friendly polypropylene and elastomer, which provides a soft, comfortable grip. A hexagonal bolster is attached when extra power is needed. (Excluding stubby screwdrivers)


Flat ratchet screwdriver |>P. 142

Short stubby screwdriver | P. 140


| *Except special screwdrivers |  | Chart of KTC screwdrivers |  |  |  | - = with magnetic type |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shaft <br> Grip |  | Through type |  |  |  | Non-through type |  |  |
|  |  | Rounded shaft |  | Square shaft |  | Rounded shaft |  | Thin shaft (Rounded shaft) |
|  |  | Bolster |  | Bolster |  | Bolster |  |  |
| Material | Shape | Yes | No | Yes | No | Yes | No | No |
| Plastic | Square |  | -D10P2 / D10M2 |  |  |  | PDDZ / MDDZ <br> -D10P / D10M | -D10SP / D10SM |
|  | Hexagon |  |  |  | -DPD / DMD |  |  |  |
|  | Rounded |  | -PDD1 / MDD1 |  |  |  |  |  |
| Soft | Round |  | -D8P2 / D8M2 |  |  |  | -D8P / D8M |  |
|  | Square |  | -D7P2 / D7M2 | -D1P2 / D1M2 |  | -ND2P / ND2M | -D7P / D7M | -D7SP / D7SM |
|  | Hexagon |  |  |  |  |  |  |  |
|  | Rounded |  |  |  |  | -PDEA / MDEA* | -D6P / D6M | MDEA1 |
| Wooden | Hexagon | OND3P / ND3M |  |  |  |  |  |  |
|  | Rounded |  | $\begin{array}{\|c\|} \hline \text { D12P2 / D12M2 } \\ \text { PD / MD } \\ \hline \end{array}$ |  |  |  |  |  |

*Only PDEA-2, 3, MDEA-100, 150

## Selecting screwdrivers

As there is a great variety of screwdriver makes available, how do you select the appropriate type?
Here, we will show you ways of selecting screwdrivers more suited to your purpose while showing you screwdriver types and functions.

## 1 Select the grip

Firstly, the grip is a very important factor when selecting a screwdriver. Select the material that it is best suited to your project. Every effort has been carried out to improve the grip but as users all have differently shaped hands, it is important that you try gripping the tool before purchase.
Try this in the store in front of the sales staff.

## 2 Select the shaft

The shaft is an important component as well as the grip. Select the correct shaft from the 5 points provided below.
(3) Bolster

The wrench can be used for leverage by attaching a hex to the root of the shaft when high torque is needed.


Mainly made from hard durable materials that do not get dirty easily, such as Acetyloid.


The elasticity of the surface provides a soft grip.
c.Wooden

A conventional, familiar screwdriver that uses wooden materials. The screwdriver provides good grip even for greasy hands.
2)Shape
a.Round type

The round grip that allows for the hand to firmly grasp the tool is shaped for easier use when pushing and turning action is required.
The ratio of pushing and turning for a basic screwdriver is said to be 7:3.
This shape is often used for wooden screws that especially require the pushing and turning action. It is also suitable for women and when the application of strength by the user is difficult.
b.Square - hexagonal - rounded type


A standard shape held using the basic side-grip method allows for easy use when turning rapidly or hitting the washer.


## 4) Material

a.Cr-V (Chrome vanadium copper)

A special steel that has anti-wear properties that are desired in screwdrivers. The steel is often used in high-grade models.
b.SWRH62A (Hard drawn steel wired material)

A common steel material used for screwdrivers regulated by JIS standards.
c.S55C, S45C (Carbon steel)

A common steel material used for screwdrivers regulated by JIS standards.
(2)Shape
a.Rounded shaft
(○)
b.Square shaft
( $\square$ )

A common shape that is easy to use when turning while supporting the shaft with the hand.

Open end wrenchs can be used for leverage when high turning torque is needed.

## (5) Magnetic tip

These tools have magnetized tips. The magnetic type is identified in the catalog by this symbol


New plastic grip screwdriver A new design that embodies a new concept.

- The design of the edges of the screwdriver has been modified in order to produce a new type of screwdriver.
- The square form (shape) allows for easy delivery of high torque while being effective in the direction it is being pushed in.
- A triple format consisting of environmentally friendly polypropylene and elastomer which provides a soft, comfortable grip.
- The grip end is color coded with red $\oplus$ (Cross head) and green $\ominus$ (Flat head) for easy distinction
- Improved ease of use due to the tip shape that snugly fits the screw.
- The axle is of a hexagon design. The attached bolster is effective when high torque is needed. (Excluding stubby screwdrivers)

*Cam out
This refers to the force of the screwdriver that escapes when turning the screw.



| STANDARD SCREWDRIVER - STUBBY SCREWDRIVER |  |  |  |  |  |  |  |  |  |  |  | OSTANDARD SCREV |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | a | b | d | D | s | s | L | $\ell$ | Vg | ¢ $¢$ |  | SCREWDRIVER ${ }_{\text {d.pat. }}$ |
| D1M2-5 | 0.8 | 5.5 | 7.1 | 29.6 | 10 | 6.3 | 170 | 75 | 120 | 10 |  |  |


| D1M2 -5 | 0.8 | 5.5 | 7.1 | 29.6 | 10 | 6.3 | 170 | 75 | 120 | 10 |  |
| ---: | :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| $\mathbf{- 6}$ | 1.0 | 6.3 | 7.1 | 32 | 10 | 6.3 | 210 | 100 | 150 | 10 |  |
| $\mathbf{- 8}$ | 1.2 | 8 | 8.9 | 33.8 | 12 | 7.9 | 280 | 150 | 250 | 5 |  |
| D1MS -6 | 1.0 | 6.3 | 7.1 | 35.5 | - | - | 75 | 25 | 70 | 10 |  |

- The tip is magnetized.
- Cr-V is used for shaft material.

*The stubby screwdriver is a non-through type shaft.


| STANDARD LONG SCREWDRIVER |  |  |  |  |  |  |  |  |  |  |  | OSTANDARD LONG SCREWDRIVER ${ }_{\text {d.pat }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | a | b | d | D | s | s | L | $\ell$ | Vg | ¢ | - |  |
| D1M2-530 | 0.8 | 5.5 | 7.1 | 29.6 | 10 | 6.3 | 400 | 300 | 180 | 5 |  |  |

[^3]

- The tip is magnetized.
- Cr-V is used for shaft material




- The large size comes attached with a hexagonal bolster. (Only PDEA-2, 3)
- The tip is magnetized.

- PLASTIC GRIP SCREWDRIVER

| $\Omega$ | PLASTIC GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Type | D | d | L | $\ell$ | Vg | $\oplus$ |  |
|  | PDD1 -1 | No. 1 | 27 | 5 | 160 | 75 | 75 | 10 |  |
| ) | -2 | No. 2 | 30 | 6.3 | 205 | 100 | 130 | 10 |  |
|  | -3 | No. 3 | 33 | 8 | 265 | 150 | 210 | 5 |  |
|  | - The tip is magnetized. <br> - Cr-V is used for shaft material. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |


| PLASTIC GRIP SCREWDRIVER SET (8pcs.) |  |  |  |
| :---: | :---: | :---: | :---: |
| No. PMD18 |  | Vg 910 | \& 1 |
| Flat Screwdriver | 75 | MDD1-75 |  |
|  | 100 | MDD1-100 |  |
|  | 150 | MDD1-150 |  |
| Cross Screwdriver | No. 1 | PDD1-1 |  |
|  | No. 2 | PDD1-2 |  |
|  | No. 3 | PDD1-3 |  |
| Stubby Screwdriver | Flat | SD1-M |  |
| Cross SDI-P |  |  |  |
| - The tip is magnetized. (Except SD1-M, P) <br> - Cr-V is used for shaft material. |  |  |  |


| PLASTIC GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | a | b | d | D | L | $\ell$ | Vg | ¢ $¢$ | $\bigcirc$ |
| MDD1-75 | 0.7 | 5.5 | 5.5 | 27 | 160 | 75 | 75 | 10 |  |
| -100 | 0.8 | 6 | 6 | 30 | 205 | 100 | 130 | 10 | - |
| -150 | 1.0 | 8 | 8 | 33 | 265 | 150 | 210 | 5 |  |

- The tip is magnetized.
- Cr-V is used for shaft material
- PLASTIC GRIP SCREWDRIVER



## PLASTIC GRIP LONG SCREWDRIVER



| No | Type | a | b | d | D | L | $\ell$ | $\boldsymbol{\nabla}$ g | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :--- |
| PDDZ -2 | Cross No.2 | - | - | 5.5 | 27 | 383 | 288 | 100 | 5 |  |
| MDDZ-400 | Flat | 0.7 | 5.5 | 5.5 | 27 | 383 | 288 | 90 | 5 |  |

- Convenient for adjusting carburetors, etc.
- S55C is used for shaft material.

PLASTIC GRIP LONG SCREWDRIVER

HEAVY DUTY SCREWDREIVER

- HEAVY DUTY SCREWDREIVER

| No. | Type | a | b | d | D | L | $\boldsymbol{\ell}$ | $\mathbf{V g}$ | e日 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FPD-250 | Cross | - | - | 9 | 32 | 275 | 150 | 210 | 5 |  |


| FD -250 | Flat | 1.2 | 10 | 9 | 32 | 275 | 150 | 210 | 5 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

- The screwdriver has increased durability through widening and lengthening the shaft.

The shaft and the handle are strongly fixed.

- SWRH62A is used for shaft material.

WOODEN GRIP SCREWDRIVER © WOODEN GRIP SCREWDRIVER

| No. | Type | D | $\mathbf{L}$ | $\boldsymbol{\ell}$ | $\mathbf{\nabla g}$ | $\boldsymbol{q}$ |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PD -1 | No.1 | 5 | 24 | 170 | 75 | 60 | 10 |  |
| $\mathbf{- 2}$ | No.2 | 6 | 28 | 220 | 100 | 110 | 10 |  |
| $\mathbf{- 3}$ | No.3 | 8 | 33 | 285 | 150 | 190 | 5 |  |
| -4 | No.4 | 9 | 34 | 350 | 200 | 260 | 5 |  |

- Traditional wooden grip.
- S55C (PD-1, 2, 3), S45C (PD-4) is used for shaft material.



- Convenient for attaching / detaching screws in narrow spaces.
- SWRH62A is used for shaft material

-STUBBY SCREWDRIVER


SD1-M


SD1-P

- MINI STUBBY SCREWDRIVER


SD3-M


SD3-P

| MINI STUBBY SCREWDRIVER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No | Type | a | b | D | L | $\ell$ | $\nabla \mathrm{g}$ | $\epsilon$ |
| SD3-P | Cross No. 2 | - | - | 29 | 40 | 20 | 25 | 10 |
| -M | Flat | 0.7 | 6 | 29 | 40 | 20 | 25 | 10 |

> - With improved function of Stubby Screwdriver.

- SWRH62A is used for shaft material.

-SHORT STUBBY SCREWDRIVER


| SHORT STUBBY SCREWDRIVER |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No | Type | D | L | $\boldsymbol{\ell}$ | $\mathbf{\nabla g}$ | $\epsilon 9$ |  |  |
| SD4-P | Cross No.2 | 40 | 30 | 15 | 20 | 10 |  |  |

- Total length : 30mm for use in narrow space.
(Ex. attaching/detaching mud guards, console boxes, installment panels)
- $\varnothing 40$ grip for applying higher torque
- SWRH62A is used for shaft material


## -BABY SCREWDRIVER



- For adjusting meters and other precision equipments.
- SWRH62A is used for shaft material.
- INTERCHANGEABLE SCREWDRIVER SET


| INTERCHANGEABLE SCREWDRIVER SET |  |  |  |
| :--- | :---: | :---: | :---: |
| No. DB4 |  |  |  |
| Cross-bit for the interchangeable screwdriver (No.2×No.3) |  |  |  |
| Flat bit (tip width $4 \times$ tip width 6) |  |  | $-\mathrm{DB} 4-\mathrm{M}$ |
| Handle |  |  |  |

## - Cr -V is used for shaft material.

## Characteristics

- 1 bit fits 2 sizes. One-touch operated through inserting and removing.
- A soft grip that prevents slipping.
- The shaft is hexagonal (each side of the hexagonal shaft is 6.3 mm ). The attached bolster
(hexagonal width-across flat 12 mm ) allows the use of an open end wrench for tightening.
- Screwdriver bits that are readily available can also be used. (Where each side of the shaft is 6.3 mm and full length is 65 mm and over)
Replacement parts For the interchangeable screwdriver

| No. | Product name |  |
| :--- | :--- | :--- |
| DB4-P | Cross bit (No.2 No.3) |  |
| -H | Flat bit (tip width $4 \times$ tip width 6) |  |


| RATCHET SCREWDRIVER |  |
| :--- | :--- |
| No. DBR14 | $\nabla \mathrm{g} 340$ |
| Body | 1pcs. |
| Axis | Hex hole width across flats $6.3 \mathrm{~mm} \times 8 \mathrm{~mm}$ 1pcs. |
| Bit | Cross No.1 $\times$ Flat 5.5 mm, |
|  | Cross No.3 $\times$ Flat 8 mm, |
|  | Torx T15 $\times$ T20, Torx T25 $\times$ T30, |
|  | Hex. $2.5 \mathrm{~mm} \times 3 \mathrm{~mm}, \mathrm{Hex.4mm} \mathrm{\times 5mm1pcs} each$. |
|  | Cross No.2 $\times$ Flat 6 mm 2 pcs. |

## - RATCHET SCREWDRIVER



- It can also be used as a regular screwdriver by fixing the ratchet
- 2 on the axis, 6 on the grip end, the total of 8 bits can be stored
- 14 types of cross, flat, T-type Torx and hex. bits are attached.

Only the frequently used cross No. $2 \times$ flat 6 mm are 2 pcs.

## Supply Parts

| No. | Product Name |  |  |
| :--- | :--- | :--- | :--- |
| DBR14-01 | End Cap (Gray) |  |  |
| DBR14-02 | Axis | Hex hole width across flats Width $6.3 \mathrm{~mm} \times 8 \mathrm{~mm}$ |  |
| DBR14-03 | Bit | Cross No. $\times$ Flat 5.5 mm |  |
| DBR14-04 | Bit | Cross No. $2 \times$ Flat 6 mm |  |
| DBR14-05 | Bit | Hex. $2.5 \mathrm{~mm} \times$ Hex. 3 mm |  |
| DBR14-06 | Bit | Hex. $4 \mathrm{~mm} \times$ Hex. 5 mm |  |
| DBR14-07 | Bit | Torx T15 $\times$ Torx T20 |  |
| DBR14-08 | Bit | Torx T25 $\times$ Torx T30 |  |
| DBR14-09 | Bit | Cross No.3 $\times$ Flat 8 mm |  |
| DBR14-10 | Bit | Torx T27 $\times$ Torx T40 |  |




| RATCHET SCREWDRIVER |  |
| :--- | :--- |
| No. DBR03 | $\nabla \mathrm{g} 280$ |
| Body | 1 pcs. |
| Axis | Hex hole width across flats $6.3 \mathrm{~mm} \times 8 \mathrm{~mm}$ 1pcs. |
| Bit | $1 / 4$ "sq. Screwdriver |
| Socket | $1 / 4$ "sq. Socket $7 \mathrm{~mm}, 8 \mathrm{~mm}, 10 \mathrm{~mm}$ |

- Ratchet mechanism that's capable of quick turning in both tightening and loosening directions.
- It can also be used as a regular screwdriver by fixing the ratchet.
- Socket can be stored in the grip.
* 1/4"sq. screwdriver cannot be stored in the grip

Supply Parts

| No. | Product Name |  |  |
| :--- | :--- | :--- | :--- |
| DBR03-01 | End Cap (Yellow) |  |  |
| DBR14-02 | Axis | Hex hole width across flats Width $6.3 \mathrm{~mm} \times 8 \mathrm{~mm}$ |  |
| DBR14-BD2 | Bit | $1 / 4$ "sq. Screwdriver |  |
| B2-07 | Socket | $1 / 4$ "sq. Socket 7 mm |  |
| B2-08 | Socket | $1 / 4$ "sq. Socket 8 mm |  |
| B2-10 | Socket | $1 / 4$ "sq. Socket 10 mm |  |

- RATCHET SCREWDRIVER




## - RATCHET SCREWDRIVER



Bit Storage Part

37.5 Hex. Hole 6.3 \$11 Hex. Hole 8


- INSERT CHANGEABLE FLAT RATCHET SCREWDRIVER
Coution. ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.


O INSERT CHANGEABLE FLAT RATCHET SCREWDRIVER
( ${ }^{\text {cauton }}$ - ENSURE THAT THE SWITCH LEVER HAS BEEN SET PROPERLY, OTHERWISE IT MAY CAUSE DAMAGE OR IDLING.


| INSERT CHANGEABLE FLAT RATCHET SCREWDRIVER SET |  |
| :--- | :--- |
| No. TMDB8 | $\boldsymbol{\nabla g} 105$ |
| Body |  |
| Cross Bit | No. 222 mm, No. 230 mm, No.3 25 mm |
| Hexagon Bit | $4 \cdot 5 \cdot 6 \mathrm{~mm}$ |
| Bit Holder for 6units | EHDB06 |

- SWRH62A is used for shaft material.
*The screwdriver is not sold individually.

| No. RM22 |  | Vg 60 | © 10 |
| :---: | :---: | :---: | :---: |
| Body RM2-110 Bit (BT52P) |  |  |  |
| Bit Set |  |  |  |
| No. BT52P | Cross Bit ( $\oplus$ No. 2 Length22)5pcs. | Vg 40 | ¢¢ 10 |
| No. TD52P | Cross Bit ( $\oplus$ No. 2 Length30)5pcs. | Vg 40 | \&¢ 10 |
| No. BT53P | Cross Bit ( $\oplus$ No.3 Length25)5pcs. | Vg 40 | \& $¢ 10$ |
| No. TD5100M | Flat Bit ( $\odot 100$ Length30) 5pcs. | Vg 40 | ¢¢ 10 |
| No. TDH5 | Hexagon Bit (3, 4, 5, 6 Length20) adapter ( (A1/14"sq. Length30)each 1 unit |  | \&f 10 |
| No. EHDB06 | Bit Holder 1 unit | Vg 10 | ¢¢ 10 |
| - Cr-V is used for bit material. |  |  |  |
| INSERT CHANGEABLE FLAT RATCHET SCREWDRIVER OFFSET TYP |  |  |  |
| No. RM32 | Vg 60 | \&10 |  |
| Body * |  |  |  |
| Bit | Cross No. 2 To | tal Leng | th 22mm |

- $15^{\circ}$ offset type that helps avoiding obstacles and secures the finger space.
- Ratchet can be operated in both left and right directions with the switching lever
- Quick spinning is possible by turning the gear with a fingertip.
- Bit of 6.3 mm axis subtense can be used.
* The body alone is not available.
!caution. Please operate the switching lever on left and right securely since it may be the cause of damage or idling.

- It is a bit set of 6.3 mm axis opposing side that can be used for the insert changeable flat ratchet screwdriver (TMDB8, RM22, RM32).
- It can also be used for Digital Ratchet screwdriver type (GLK060~500) ©P. 180 and Torque screwdriver (GDP-080~GDP-450) ©P. 190.



## -IMPACT SCREWDRIVER SET

$\wedge^{\text {caution. GRIP THE CENTER SECURELY. • HIT THE CENTER SECURELY }}$ - USE EXCLUSIVE BITS. • USE APPROVED EYE PROTECTION.



| Cross Soft Stubby Screwdriver | No.2 | D9P-225 |
| :--- | ---: | :--- |
| Flat Soft Stubby Screwdriver | 25 | D9M-625 |
| No. TD702 $\quad$ Soft Grip Screwdriver Set |  |  |
| Cross Soft Grip Screwdriver | No.2 | D7P-2 |
| Flat Soft Grip Screwdriver | 100 | D7M-6 |

- Cr -V is used for shaft material. ■Best for gift-giving
- Pleasing as a gift, Convenient set of two pieces.
- Operable in narrow spaces; good appearance. - Necessities, popular at home and office.ก


| 2 |
| :--- |
| 8 |
| 8 |
| 6 |
| 8 |
| 8 |
| 8 |
| 8 |
| 8 |


| SOFT GRIP SCREWDRIVER |  |
| :--- | :--- |

 - The shaft is non-through type and the tip is magnetized.
$\cdot \mathrm{Cr}-\mathrm{V}$ is used for shaft material.

| -SOFT GRIP SCREWDRIVER | SOFT GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\Omega \frac{\text { No. }}{\text { D7M-5 }}$ | a | b | d | D | L | $\ell$ | Vg | ¢ |  |
|  |  | 0.75 | 5.5 | 5.5 | 29 | 200 | 75 | 80 | 10 |  |
|  | -510 | 0.75 | 5.5 | 5.5 | 29 | 225 | 100 | 85 | 10 |  |
|  | -515 | 0.75 | 5.5 | 5.5 | 29 | 275 | 150 | 95 | 10 |  |
|  | -520 | 0.75 | 5.5 | 5.5 | 29 | 325 | 200 | 105 | 10 |  |
|  | -6 | 0.95 | 6 | 6.3 | 31 | 230 | 100 | 105 | 10 |  |
| , | -615 | 0.95 | 6 | 6.3 | 31 | 280 | 150 | 115 | 10 |  |
| , | -620 | 0.95 | 6 | 6.3 | 31 | 330 | 200 | 130 | 10 |  |
|  | -630 | 0.95 | 6 | 6.3 | 31 | 430 | 300 | 155 | 10 |  |
| $\ell \quad \mathrm{D}$ | -8 | 1.1 | 8 | 8 | 33 | 285 | 150 | 160 | 10 |  |
|  | - The shaft is no | Ihrough ty | $\begin{aligned} & \text { type an } \\ & \text { erial. } \end{aligned}$ |  | is ma | netized |  |  |  |  |
| -SOFT GRIP SCREWDRIVER | SOFT GRIP S | WDRIVE |  |  |  |  |  |  |  |  |
| , | No. | Type | d |  | D | L | $\ell$ | Vg | ${ }^{*}$ |  |
|  | D7SP-0075 | No. 00 | 4 |  | 20 | 165 | 75 | 35 | 10 |  |
|  | -0010 | No. 00 | 4 |  | 20 | 190 | 100 | 35 | 10 |  |
| , | -075 | No. 0 | 4 |  | 20 | 165 | 75 | 35 | 10 |  |
| 边 | -010 | No. 0 | 4 |  | 20 | 190 | 100 | 35 | 10 |  |
|  | -175 | No. 1 | 4 |  | 20 | 165 | 75 | 35 | 10 |  |
| $\left.L_{\ell}^{L}\right\|^{D}$ | $\begin{aligned} & -110 \\ & -115 \end{aligned}$ | No. 1 No. 1 | 4 |  | 20 | 190 240 | 100 150 | 35 40 | 10 10 |  |
|  | $\begin{array}{r}-115 \\ \hline \text { - The shaft is th }\end{array}$ | No. 1 <br> and non- | 4 | pe. | 20 | 240 | 150 | 40 | 10 |  |


| - SOFT GRIP SCREWDRIVER | SOFT GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | a | b | d | D | L | $\ell$ | Vg | $\oplus$ |  |
|  | D7SM-450 | 0.5 | 4 | 4 | 20 | 140 | 50 | 30 | 10 |  |
|  | -475 | 0.5 | 4 | 4 | 20 | 165 | 75 | 35 | 10 |  |
|  | -410 | 0.5 | 4 | 4 | 20 | 190 | 100 | 35 | 10 |  |
|  | -412 | 0.5 | 4 | 4 | 20 | 215 | 125 | 40 | 10 |  |
|  | -415 | 0.5 | 4 | 4 | 20 | 240 | 150 | 40 | 10 |  |
|  | -420 | 0.5 | 4 | 4 | 20 | 290 | 200 | 45 | 10 |  |
|  | - The shaft is thin and non-through type. <br> - Cr-V is used for shaft material. |  |  |  |  |  |  |  |  |  |
| SOFT STUBBY SCREWDRIVER | SOFT STUBBY SCREWDRIVER |  |  |  |  |  |  |  |  |  |
|  | Cross |  |  |  |  |  |  |  |  |  |
|  | No. | Type |  |  |  | L | $\ell$ | Vg | $\oplus$ |  |
|  | D9P-125 | No. 1 | 6 |  |  | 75 | 25 | 40 | 10 |  |
|  | -225 | No. 2 |  |  |  | 75 | 25 | 40 | 10 |  |
|  | Flat |  |  |  |  |  |  |  |  |  |
| V | No. | a | b | d | D | L | $\ell$ | Vg | $\oplus$ |  |
| - $\mathrm{HL}^{C}$ | D9M-625 | 0.8 | 6 | 6 | 35 | 75 | 25 | 40 | 10 |  |
|  | - The shaft is non-through type and the tip is magnetized. <br> - $\mathrm{Cr}-\mathrm{V}$ is used for shaft material. |  |  |  |  |  |  |  |  |  |


| SOFT ROUND SCREWDRIVER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | d | D | L | $\ell$ | Vg | $\oplus$ | $\Omega$ |
| D8P2-1 | No. 1 | 5.5 | 32 | 170 | 75 | 65 | 10 | - |
| -2 | No. 2 | 6.3 | 40 | 215 | 100 | 120 | 10 | - |
| -215 | No. 2 | 6.3 | 40 | 265 | 150 | 130 | 10 |  |

- Round grip end, good for "push and turn" without palm pain.
- Elastomer used as grip materials ; lightweight, environment friendly, not sticky.
- The shaft is through type and the tip is magnetized
- Cr-V is used for shaft material.
-SOFT ROUND SCREWDRIVER


| SOFT ROUND SCREWDRIVER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | a | b | d | D | L | $\ell$ | Vg | ¢ $¢$ |
| D8M2-5 | 0.75 | 5.5 | 5.5 | 32 | 170 | 75 | 65 | 10 |
| -6 | 0.95 | 6 | 6.3 | 40 | 215 | 100 | 120 | 10 |
| -615 | 0.95 | 6 | 6.3 | 40 | 265 | 150 | 130 | 10 |

- The green color of the grip indicates "flat".
- The shaft is through type and the tip is magnetized
- Cr-V is used for shaft material.
-SOFT ROUND SCREWDRIVER


SOFT ROUND SCREWDRIVER

| No. | a | b | d | D | L | $\ell$ | Vg | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D8M-5 | 0.75 | 5.5 | 5.5 | 32 | 170 | 75 | 55 | 10 |  |
| -510 | 0.75 | 5.5 | 5.5 | 32 | 195 | 100 | 60 | 10 |  |
| -515 | 0.75 | 5.5 | 5.5 | 32 | 245 | 150 | 70 | 10 |  |
| -6 | 0.95 | 6 | 6.3 | 40 | 215 | 100 | 100 | 10 |  |
| -615 | 0.95 | 6 | 6.3 | 40 | 265 | 150 | 110 | 10 |  |
| -620 | 0.95 | 6 | 6.3 | 40 | 315 | 200 | 125 | 10 |  |

-SOFT ROUND SCREWDRIVER


- The shaft is non-through type and the tip is magnetized.
- $\mathrm{Cr}-\mathrm{V}$ is used for shaft material.

| WOODEN GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | d | D | L | $\ell$ | Vg | $\oplus$ | $\Omega$ |
| D12P2-1 | No. 1 | 5.5 | 30 | 195 | 75 | 60 | 10 | - |
| -2 | No. 2 | 6.3 | 32 | 230 | 100 | 120 | 10 | $\square$ |
| -215 | No. 2 | 6.3 | 32 | 280 | 150 | 130 | 10 |  |
| -3 | No. 3 | 8 | 35 | 290 | 150 | 200 | 10 |  |

- Palm-friendly native wood is used for grip.
- The shaft is through type and the tip is magnetized
- $\mathrm{Cr}-\mathrm{V}$ is used for shaft material.
- WOODEN GRIP SCREWDRIVER


| WOODEN GRIP SCREWDRIVER |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | a | b | d | D | L | $\ell$ | Vg | ${ }^{\oplus(1)}$ |  |
| D12M2-5 | 0.75 | 5.5 | 5.5 | 30 | 195 | 75 | 60 | 10 |  |
| -6 | 0.95 | 6 | 6.3 | 32 | 230 | 100 | 120 | 10 |  |
| -7 | 0.95 | 7 | 7 | 35 | 265 | 125 | 180 | 10 |  |
| -8 | 1.1 | 8 | 8 | 35 | 290 | 150 | 200 | 10 |  |

[^4]- Cr-V is used for shaft material.
- WOODEN GRIP SCREWDRIVER ${ }_{\text {d.pat }}$



## 2．CONVENTIONAL TOOLS <br> PLIERS，CUTTING PLIERS，SHEARS

WARNING Pliers，cutting pliers，shears
－Do not use if there is a live electric current
The plastic on the grip does not provide insulation against electrical current．

## caution Pliers

Do not use this tool as a hammer
Do not apply strong impact on this tool by hitting
it with a hammer，etc．
Take care not to get hands or fingers caught
between the grips．

Water pump pliers
Do not use this tool as a hammer．
Do not apply strong impact on this tool by hitting it with a hammer，etc．

## Snap rings

Do not use except for snap ring
Do not use except for snap rings．
Use pliers that conform to the size of the snap rings． The pliers can loosen when too much force is applied． The snap ring may pop out if the tool looses its grasp． －Wipe off any grease from the hole of the snap ring and tip of the pliers before use
－Use protective goggles when working．
Pliers and nippers
－Check the direction the cut piece is likely to
travel before cutting
Use protective goggles when working
－Do not apply strong impact on this tool by hitting
it with a hammer，etc．
－Close the blade and store when the tool is not
going to be used going to be used．

Shears and bolt clippers
Check the direction the cut piece is likely to travel before cutting．
Use protective goggles when working． Close the blade and store when the tool
Do not twist or hit using the blade tip．
－Take care not to cut the hand holding the tool

PJ－200


A safe design that prevents the hand from getting jammed when changing to the wide－sized width． －Each blade of the＂three stage form＂allows the tool to grasp thin and thick objects．

（8）

The three stage form of the pliers

| COMBINATION PLIERS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Is able to cut through I arge diameter wires（Steel wire） | L | B | T1 | T2 | Vg | ¢ $¢$ |  |
| PJ－150A | $\varnothing 2$ | 158 | 40 | 11 | 10 | 190 | 5 |  |
| －200A | ø2．6 | 195 | 45.5 | 11 | 11 | 270 | 5 |  |
| －250A | $\varnothing 3.5$ | 245 | 50 | 11 | 11 | 350 | 5 |  |

－A safe design that prevents the hand from getting jammed when changing to the wide－sized widt

## OCOMBINATION PLIERS




HEAVY DUTY WATERPUMP PLIERS

| No． | Nominal | Applicable Dia | L | $\boldsymbol{\nabla} \mathrm{g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | ---: | :--- |
| WPD1－250 | 250 | $\varnothing 6 \sim 32$ | 265 | 360 | 10 |  |
| -300 | 300 | $\varnothing 6 \sim 50$ | 295 | 500 | 5 |  |

－The left and right teeth feature special design which become engaged in a unique way when the pliers turn in the direction of engagement．
－The grooves are worked with a high－precision dedicated machine to eliminate virtually all rattle，and reduce slippage and deformation
－The joint replacement section is fixed firmly in order to prevent accidental changes in


## WATERPUMP PLIERS WITH SLOTTED HANDLE－END

| No． | Nominal | Applicable Dia． | $\mathbf{L}$ | $\boldsymbol{\nabla} g$ | $\oplus \in$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| WPDA－250 | 250 | $\varnothing 6 \sim 32$ | 260 | 380 | 10 |  |

－The shape of the teeth facilitates the grasp when the pliers are turned towards the lower jaw．
－The grooves are worked with a high－precision dedicated machine to eliminate virtually al rattle，and reduce slippage and deformation．
－Screwdriver－shaped grip end is handy for turning screws and prying

Groove type with strong join


PSN-175 M2~M6
$\nabla \mathrm{g}$

| - Unlike conventional pliers, teeth for holding small screws are given on the tips. |
| :--- | :---: | :---: |

- It is capable of vertical use that's been difficult with ordinary pliers. It is very convenient for
loosening crushed, rusted or specially shaped small screws.
- Using the nonslip tips, small screws can be turned at 4 times or more torque compared to conventional pliers


Types and applicable diameters of the snap ring pliers
OKTC sets the claw diameter of the snap ring pliers according to the dimensions of the hole as shown in diagram "A" below. The " $A$ " dimensions determine the nominal diameter of the snap ring according to the JIS standards. Therefore, the application of the snap ring pliers (nominal diameter) is dependent on the claw diameter.
The grip color of KTC snap ring pliers is differentiated by using red for the "hole type" and yellow for the "shaft type", setting the tip shape according to use by dividing the types into the "straight type" where the tip is straight and the "curved type" where the tip is curved.


## INTERNAL SNAP RING PLIERS

INTERNAL SNAP RING PLIERS

| No. | Claw Dia. | Applicable Dia. | L | $\boldsymbol{\nabla g}$ | $\notin$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SCP- 171 | $\varnothing 2.0$ | $19 \sim 30$ | 185 | 200 | 10 |  |
| $-\mathbf{1 7 1 5}$ | $\varnothing 1.5$ | $12 \sim 13$ | 185 | 200 | 10 |  |

[^5] spring helps open the mouth. (The set of claws shown on page 149 can be used.)
*The number marked on the pliers is the product number (SCP-170), which indicates only the pliers themselves (without claws). (The pliers are not sold alone.)

INTERNAL LONG SNAP RING PLIERS

| No. | Claw Dia. | Applicable Dia. | L | $\boldsymbol{\nabla} g$ | $\notin 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SCP-171LL | $\varnothing 1.2$ | $10 \sim 11$ | 220 | 160 | 10 |  |

- Long clows for use in narrow spaces.



[^6]
## -BENT INTERNAL SNAP RING PLIERS



BENT INTERNAL SNAP RING PLIERS
BENT INTERNAL SNAP RING PLIERS

| No. | Claw Dia. | Applicable Dia. | L | $\boldsymbol{\nabla} g$ | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SCP-172L | $\varnothing 1.2$ | $10 \sim 11$ | 165 | 200 | 10 |  |

- Claws are interchangeable. (7 kinds of spare claw tip sets are available.)
- Convenient for removing/installing snap rings on master cylinders of brakes.

BENT INTERNAL LONG SNAP RING PLIERS

| No. | Claw Dia. | Applicable Dia. | L | $\nabla \mathrm{g}$ | $\in \in$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SCP-172LL | $\varnothing 1.2$ | $10 \sim 11$ | 175 | 200 | 10 |  |

- Long claws (60a) for use in narrow deep spaces.

*Replaceable parts are available for the opening/closing spring and screw. Check with your dealer for details.
-EXTERNAL SNAP RING PLIERS


EXTERNAL SNAP RING PLIERS EXTERNAL SNAP RING PLIERS

| No. | Claw Dia. | Applicable Dia. | L | Vg | $\in 9$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SOP- 171 | $\varnothing 2.0$ | $19 \sim 30$ | 180 | 200 | 10 |  |
| -1715 | $\varnothing 1.5$ | 12 | 180 | 200 | 10 |  |

- The claws are interchangeable. The caulked part of the grips has little looseness. The spring helps open the mouth. (The set of claws shown on page 149 can be used.)

EXTERNAL LONG SNAP RING PLIERS

*The number marked on the pliers is the product number (SOP-170), which indicates only the pliers themselves (without claws). (The pliers are not sold alone.)

## BENT EXTERNAL SNAP RING PLIERS

BENT EXTERNAL SNAP RING PLIERS


SOP-172LL

| No. | Claw Dia. | Applicable Dia. | L | $\boldsymbol{\nabla g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| SOP-172 | $\varnothing 2.0$ | $19 \sim 30$ | 170 | 195 | 10 |  |

- The claws are interchangeable. The caulked part of the grips has little looseness. The spring helps open the mouth. (The set of claws shown on page 149 can be used.) The number marked on the pliers is the product number (SOP-170), which indicates only the pliers themselves (without claws). (The pliers are not sold alone.) XTERNAL SNAP RING

| BENT EXTERNAL LONG SNAP RING PLIERS |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  |  |  |  |
| Claw Dia. |  |  |  |  |  |  |  |
| Applicable Dia. |  |  |  |  |  |  |  |
| SOP-172LL |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| *Replaceable parts are available for the opening/closing spring and screw. Check with your dealer for details. |  |  |  |  |  |  |  |

## OFLAT TYPE EXTERNAL SNAP RING PLIERS

$\stackrel{H}{ }$

*Replaceable parts are available for the opening/closing spring and screw. Check with your dealer for details.

| INTERNAL－EXTERNAL CONVERTIBLE SNAP RING PLIERS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Diameter of sharp end claw | Applicable Dia． | L | $\nabla \mathrm{g}$ | $\oplus$ |  |
| SOCP－130 | $ø 1.2$ | For Internal \＆External 10~40 | 145 | 120 | 6 |  |
| －Good work | ency for the hole | provided on the |  |  |  | （O） |

＊Replaceable parts are available for the opening／closing spring．Check with your dealer for details．

## OINTERNAL－EXTERNAL CONVERTIBLE SNAP RING PLIERS


SPARE TIPS FOR SNAP RING PLIERS（10pcs．）

| No． | Contents | L | $\mathbf{\nabla g}$ | $\oplus 日$ |  |  |
| :--- | :--- | ---: | :---: | :---: | :---: | :--- |
| SPC 110 | Straight type ø2．0 | 10pcs． | 36 | 40 | 10 |  |
| SPC 110L | Straight type ø2．0（Long） | 10pcs． | 46 | 40 | 10 |  |
| SPC0110 | Straight type ø1．5 | 10pcs． | 36 | 40 | 10 |  |
| SPC0110L | Straight type ø1．5（Long） | 10pcs． | 46 | 40 | 10 |  |
| SPC 210 | Bent type ø2．0 | 10pcs． | 34 | 40 | 10 |  |
| SPC0210 | Bent type ø1．5 | 10pcs． | 34 | 40 | 10 |  |
| SPC 310 | Flat type | 10pcs． | 36 | 40 | 10 |  |
| SPC5 | Straight $\varnothing 1.5$（Long），ø2．0 | 1pa．ea． | - | 40 | 10 |  |
|  | Flat | 1pa． |  |  |  |  |
|  | Bent $\varnothing 1.5, ~ \varnothing 2.0$ | 1pa．ea． |  |  |  |  |

－ 7 kinds of Interchangeable claws are available for installation／removal of various kinds of
snap rings．Economical as the claws are replaceable．
－Claws are made of special alloy steel and specially heat－treated for extra strength．Also
upside－down tapered tip to prevent snap rings from clipping off the claws．
＊Suitable for work in narrow spaces．
＊Snap ring pliers with a $<\mid$ mark as shown on P．147～148 are applicable to the pliers themselves．（Cannot be used for SCP－171LL，SCP－172L，SCP－172LL， SOP－171LL，SOP－172LL，and SOCP－130．）
$\qquad$ $\frac{\text { Straight type（long）}}{\mathrm{L}}$ 10410 $\xrightarrow[\mathrm{L}]{\text { Straight type }}$


CONNECTOR HOUSING PLIERS
－CONNECTOR HOUSING PLIERS D．PAT．P．

| No． | Attached Claw | L | $\ell$ | B | $\mathbf{T}$ | $\mathbf{F g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AD101 | Claw A | 208 | 53 | 25 | 12 | 177 |  |  |
|  | Claw B | 209 | 54 | 25 | 12 | 177 | 5 |  |
|  | Claw C | 194 | 39 | 34 | 12 | 176 |  |  |

## Usage

－Unlocking and extraction of connector housing．
Features
－Smoothly unlocks small，thin or recessed lock that＇s difficult to work with．
－Supports various shapes with 3 types of claw with different bending angles and tip shapes．
－Long claw that can avoid bundled wirings and reach deep places is adopted
＊Spare parts are configured．Please contact your dealer for details．
$\rfloor^{\text {CAution }}$ ．Please do not use it for usages other than the application．
Supply Parts

| No． | Product Name | Set Contents | $\mathbf{F g}$ | $\notin$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| AD101－123 | Claw Set | Housing Claw A，B，C，1 each | 20 | 5 |  |

Hex．socket screws are not included．
－If you already own the KTC straight snap ring pliers for hole（No．SCP－171，1715），it can be used by replacing the claw．（Either screw can be used for the set screw．）P． 147

Claw A

Claw B

Claw C


With Housing Claw A equipped
FールーロI
With Housing Claw $B$ equipped
M0 स
With Housing Claw C equipped
＊AD101 is a set of the body and 3 types of housing claw （ $A, B, C$ ）．

LONG PLIERS SERIES
STRAIGHT LONG NOSE CUTTING PLIERS, LONG

| No. | L | $\ell$ | D | $\mathbf{\nabla g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| PS6-302 | 295 | 72 | 73 | 300 | 5 |  |

CONNECIOR HOUSING PLIERS
ANGLED LONG NOSE CUTTING PLIERS, LONG TYPE

| No. | L | Angle | D | $\mathbf{\nabla g}$ | $ध 日$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| PS6-304 | 290 | $45^{\circ}$ | 73 | 300 | 5 |


eside cutting pliers (COATED HANDLE)


ONEEDLE NOSE PLIERS (STANDARD TYPE) pat.p.

©NEEDLE NOSE PLIERS (LONG TYPE) pat.p.


ONEEDLE NOSE PLIERS (SLIM TYPE) pat.p.


| No. | Max Cutting Dia. |  | L | $\ell$ | $\mathrm{W}_{1}$ | $\mathrm{W}_{2}$ | $\mathrm{T}_{1}$ | $\mathrm{T}_{2}$ | Vg | $\oplus$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | soft | hard |  |  |  |  |  |  |  |  |  |
| PSL-150 | ø2.0 | 01.6 | 165 | 54 | 54 | 16 | 14 | 9 | 110 | 5 |  |
| -200 | ø2.3 | 01.8 | 205 | 70 | 55 | 18 | 15.5 | 10 | 190 | 5 |  |



| NEEDLE NOSE PLIERS (LONG TYPE) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Max Cutting Dia. |  | L | $\ell$ | W 1 | $\mathrm{W}_{2}$ | T1 | $\mathrm{T}_{2}$ | Vg | \& 9 |  |
|  | soft | hard |  |  |  |  |  |  |  |  |  |
| PSL-200L | ø2.0 | $\varnothing 1.6$ | 200 | 89 | 54 | 16 | 14 | 10 | 130 | 5 |  |

$\mathrm{L}_{2}$
$T_{2} \stackrel{\square}{+}$ cra I $T_{1}$

| NEEDLE NOSE PLIERS (SLIM TYPE) |
| :--- |
| No. |
| L |
| PSL-175N | 175

- No blade.

$\mathrm{T}_{2} \xlongequal{\square}$ عन


| DIAGONAL CUTTING PLIERS |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Max Cutting Dia. |  |  | L | $\ell$ | $\mathrm{W}_{1}$ | $\mathrm{W}_{2}$ | T1 | T2 | Vg | $\oplus$ |  |
|  | soft | hard | piano vire |  |  |  |  |  |  |  |  |  |
| PN1-125 | ๑2.3 | $\propto 1.6$ | 01.2 | 135 | 16 | 49 | 17 | 14 | 10 | 95 | 5 |  |
| -150 | ๑2.6 | ๑2.0 | ø1.8 | 160 | 18 | 52 | 22 | 15 | 10.5 | 172 | 5 |  |
| -175 | ø2.6 | ø2.0 | ø1.8 | 180 | 20 | 51 | 25 | 16 | 11.5 | 220 | 5 |  |
| -200 | ๑2.9 | ๑2.3 | ø2.0 | 205 | 22 | 52 | 28 | 15 | 11.5 | 265 | 5 |  |
| - A multi-functional type that can cut thin soft wires (such as copper) with its tip and hard wires (such as piano strings) with the base. <br> Standard shape has been fitted <br> - Skin peeler attached. to the wide type. The angle of the blade is adjusted according to the object. (tip $75^{\circ}$, base $90^{\circ}$ ) |  |  |  |  |  |  |  |  |  |  |  |  |


$\mathrm{T}_{2} \ddagger \sim \pi$ ( $(\mathbb{C}$

| BAND HOLD CUTTING PLIERS |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | L | $\ell$ | $\mathbf{W}_{1}$ | $\mathbf{W}_{\mathbf{2}}$ | $\mathbf{T}$ | $\boldsymbol{\nabla g}$ | $\oplus$ |  |  |
| PNC-125 | 130 | 16.5 | 14 | 48 | 8.5 | 90 | 6 |  |  |

- It is a cutting tool for plastic binding band ( $2.2 \sim 4.8 \mathrm{~mm}$ width, $1.0 \sim 1.5 \mathrm{~mm}$ thickness, 300 mm or less length).
- Holding part prevents the cut-end of binding band from flying, allowing the safe work
- Plastic dedicated blade that prevents protrusion on the cut surface of binding band compared to ordinary diagonal cutting pliers for iron wire, preventing work injury.

©BAND HOLD CUTTING PLIERS



## END CUTTING PLIERS

| No. | Nominal | Cutting Dia. | $\mathbf{L}$ | $\mathbf{\nabla g}$ | $\oplus 日$ |  |
| :--- | :---: | :--- | :---: | :---: | :---: | :---: |
| EP-160 | 160 | Hardø2 <br> Softø2.6 | 160 | 220 | 10 |  |

- Special tool for cutting wires.
- Can be used for cutting nails.



STOOL THNOLNEANOO

PLATE TYPE CUTTER

| No. | Nominal | L | B | C | D | T | Capacity(ø) | $\mathbf{\nabla g}$ | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EN-30S | 130 | 130 | 11 | 13 | 48 | 7 | Copper0.9 | 50 | 5 |  |

- For cutting leads in printed circuits.
- Flush cut blade for sharp cutting with stainless body for durability
- Stopper for easy handling.
- Built in device for preventing chips from scattering.


| MULTIPLICATIVE CUTTING PLIERS |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Nominal | Cutting Dia. | L | $\mathbf{\nabla g}$ | $\oplus$ |  |  |
| DPP-165 | 165 | Hard $\varnothing 1.8$ <br> Soft $\varnothing 2.3$ | 165 | 180 | 10 |  |  |

- Compound leverage action offers easy cutting.
- Soft comfortable grip.
- Blade is induction heat-treated.
- The grip end comes with a ball chain that prevents it from opening.


| ALL PURPOSE SHEARS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Nominal | L | Vg | $\oplus$ |
| AP-175 | 175 | 180 | 200 | 10 |

- Induction heat-treated special alloy steel for sharpness and durability.
- Specially shaped back of the blade for avoiding deformation or bent.
- Built-in special nut in the axle bolt for tight and sharp cutting.



## -BOOT BAND CUTTER




Usage

- Cutting the boot or boot band of the drive shaft


## Application

- The stainless boot band of the drive shaft on light weight vehicles to standard vehicles.


Standard, modified boot bands


Sealed type (up to 0.6 mm plate thickness)

- Rubber drive shaft boot


## Characteristics

- Cutting can be conducted while the boot band is attached.
- The boot band can also be cut, increasing overall operation speed. (Fig. 1)
- The same tool can be used to cut the boot after cutting the band. (Fig. 2)
- The attached spring allows easy opening while the stopper allows storage in a compact form. Pushing the stopper while holding the handle will fix the tool in a position where the handle is closed, reducing the total storage space occupied by the tool. (Fig. 3) * Springs are available as replacement parts. Check with your dealer for details.


| BOLT CLIPPER |
| :--- |
| No. |
| BP7-300 |
| $\mathbf{- 3 5 0}$ |

- Blade is made of chrome-vanadium steel and forged \& heat-treated to increase
toughness. Blade tip is additionally processed with secondary quenching by induction heating to provide an improved cut.

OBOLT CLIPPER


- The product cannot be used for previous replacement blades (BP2K-)

- Blade is made of chrome-vanadium steel and forged \& heat-treated to increase toughness. Blade tip is additionally processed with secondary quenching by induction heating to provide an improved cut.
- The product cannot be used for previous tools (BP2-)

| MINI CLIPPER |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Nominal | Cutting Dia. | L | $\boldsymbol{\nabla g}$ | $\epsilon 日$ |  |
| BPZ2-215C | 215 | Hardø2.9 | 215 | 355 | 6 |  |

-MINI CLIPPER


## MULTI-PURPOSE CRIMPING PLIERS

| No. | L | B | T | $\boldsymbol{\nabla}$ | $\xi_{9}$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| AD102A | 187 | 56 | 22 | 160 | 10 |  |

Usage

- For the wire harness repair of automobiles.


## Application

- Applicable wires: JASO AVS AVSS 0.3, 0.5, 0.85, 1.25.


## Features

- Supports automotive low-voltage wires $0.3 \cdot 0.5 \cdot 0.85 \cdot 1.25$.
- Supports 3 usages of wire cutting • wire stripping • terminal crimping
- With the lock function that's convenient in storage.

${ }^{\text {warning }}$ - Do not use it where current is live
- It is a simple crimping tool that does not have a molding confirmation mechanism It cannot be used in work that needs to guarantee the reliability

OMULTI-PURPOSE CRIMPING PLIERS (FOR AUTOMOTIVE THREAD) D.Pat.p.


| MULTI-PURPOSE CRIMPING PLIERS |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | L | B | T | $\boldsymbol{\nabla g}$ | $\oplus$ |  |
| AD102B | 220 | 62.5 | 22.5 | 200 | 10 |  |

## Usage

- wire cutting $\cdot$ wire stripping $\cdot$ terminal crimping.


## Features

- Supports 3 usages of wire cutting • wire stripping • terminal crimping
- With the lock function that's convenient in storage


## Application

- Wire Stripping • Cutting

| mm | 0.25 | 0.3 | 0.4 | 0.5 | 0.65 | 0.8 | 1.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AWG | 30 | 28 | 26 | 24 | 22 | 20 | 18 |

- Crimping part (open barrel terminal)

| 0.3 sq. | 0.5 sq . | 1.25 sq . |
| :---: | :---: | :---: |
| - Crimping part (sleeve terminal) |  |  |
| 0.5 sq . | 1.25 sq . | 2.0sq. |

-MULTI-PURPOSE CRIMPING PLIERS

—


## -LOCKING PLIERS LONG NOSE (WIRE CUTTER)



| LOCKING PLIERS LONG NOSE (WIRE CUTTER) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Cutting capaity | Open width | L | $\ell$ | $\begin{gathered} \mathbf{T} \\ \text { (Tip width) } \end{gathered}$ | $\nabla \mathrm{g}$ | $\oplus$ | Old mode |
|  | Soft wire |  |  |  |  |  |  |  |
| 100LN | \$1.2 | 0~45 | 135 | 38 | 5 | 108 | 5 | 4LN |
| 150LN | ф1.2 | 0~51 | 165 | 46 | 5 | 192 | 5 | 6LN |
| 225LN | ¢2.3 | 0~71 | 220 | 56 | 5 | 375 | 5 | 9LN |

- Long nose type that's useful in tight workspace. - It can hold and turn small screws, bolt • nut.
- It can be used as a wire cutter.



## (WIRE CUTTER)



| No. | Cutting capacity | Open width | L | Vg | $\oplus$ | $\begin{aligned} & \text { Old } \\ & \text { model } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Soft wire |  |  |  |  |  |
| 100WR | \$1.2 | 0~26 | 110 | 90 | 5 | 4WR |
| 130WR | ф1.2 | 0~32 | 140 | 155 | 5 | 5WR |
| 175WR | \$2.3 | 0~41 | 180 | 325 | 5 | 7WR |
| 250WR | \$2.3 | 0~57 | 220 | 500 | 5 | 10WR |

- It can fix pipes and the like with the curved jaw with teeth.
- It can be used as a wire cutter.


| LOCKING PLIERS-CURVED JAW |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Open width | L | $\boldsymbol{\nabla g}$ | $\ominus 日$ |  | Old <br> model |
| 175CR | $0 \sim 40$ | 180 | 330 | 5 |  | 7CR |
| 250CR | $0 \sim 51$ | 225 | 538 | 5 |  | 10CR |

- It can fix pipes and the like with the curved jaw with teeth.
- It can securely hold even small objects when grinding.



## -LOCKING PLIERS-STRAIGHT JAW



| LOCKING PLIERS-STRAIGHT JAW |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Open width | L | $\nabla \mathrm{g}$ | $\leftarrow \in$ | Old <br> model |  |
| 175R | $0 \sim 37$ | 180 | 383 | 5 |  | 7R |
| 250R | $0 \sim 45$ | 215 | 553 | 5 |  | 10R |

- It can fix square materials and the like with the straight jaw with teeth
- It can securely hold even small objects when grinding.
- It can be used as a temporary handle for saw blades, files, etc.


| LOCKING PLIERS C-CLAMP |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Open width | L | $\ell$ | H | A | B | Vg | $\oplus$ | $\begin{gathered} \hline \text { Old } \\ \text { model } \end{gathered}$ |
| 150R | 0~ 47 | 165 | 38 | 47 | 10 | 10 | 235 | 5 | 6R |
| 280R | 0~ 97 | 270 | 76 | 95 | 10 | 14 | 775 | 5 | 11R |
| 460R | 0~188 | 450 | 250 | 100 | 10 | 14 | 1,216 | 5 | 18R |
| 610R | 0~330 | 610 | 400 | 90 | 10 | 14 | 1,586 | 5 | 24R |

- It is convenient for fixing and welding of square iron materials and panels

-LOCKING PLIERS SWIVEL PAD CLAMP


| LOCKING PLIERS PANEL CLAMP |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Open <br> width | L | A | B | $\nabla \mathrm{g}$ | $\epsilon 日$ |  | Old <br> model |
| 225R | $0 \sim 41$ | 230 | 25 | 76 | 666 | 5 |  | 9R |

- It is convenient for fixing, welding and riveting of square iron materials and panels.

- LOCKING PLIERS PANEL CLAMP


| LOCKING PLIERS SHEET METAL TOOL |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | L | A | B | $\nabla \mathrm{g}$ | * $\dagger$ | Old model |
| 200R | 200 | 79 | 25 | 509 | 5 | 8R |

- LOCKING PLIERS SHEET METAL TOOL
- It is convenient for bending and temporary locking


| LOCKING PLIERS CHAIN CLAMP |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | L | Chain length | $\nabla \mathrm{g}$ | \& $¢$ | Old model |
| 510R | 210 | 450 | 757 | 5 | 20R |

- It is convenient for turning and gripping of circular and polygonal parts



## - LOCKING PLIERS CHAIN CLAMP


-LOCKING PLIERS SUPPLY PARTS

| No. | Product name | Applicable part No. | Total | No. | Product name | Applicable part No. | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 91A | Screw | 100LN, 100SP, 100WR | 1 | 92A | Spring | 100LN, 100SP, 100WR | 1 |  |
| 51A | Screw | 130WR, 150LN, 150R, 150SP | 1 | 52A | Spring | 130WR, 150LN, 150R, 150SP | 1 |  |
| 21A | Screw | 175CR, 175R, 175WR, 200R, 225LN, 225R | 1 | 22A | Spring | 175CR, 175R, 175WR, 200R, 225LN, 225R | 1 |  |
| 07A | Screw | 250WR, 250CR, 250R, 280R, 280SP, 460R, 460SP, 510R, 610R, 610SP | 1 | 08A | Spring | 250WR, 250CR, 250R, 280R, 280SP, 460R, 460SP, 510R, 610R, 610SP | 1 |  |

47


Please use the KTC genuine parts for spare parts.


## Original locking pliers by $\mathbf{V} \mathbf{S E} \cdot \mathbf{G R} \mathbf{P}_{\mathbb{B}}$

Blacksmith William Petersen from Denmark was the first to achieve a patent for the locking pliers.
Mr. Petersen founded a small factory in De Witt, Nebraska in 1924 Today, the factory has grown, employing several hundred people. His invention is treasured and used around the world both domestically and professionally.
To this day, all tools manufactured by VISE-GRIP adhere to Mr. Petersen's strict policies towards craftsmanship and quality.

|  | Vise grips <br> - Do not use this tool as a hammer. <br> - Do not apply strong impact on this tool by hitting it with a hammer, etc. <br> - Take care to avoid jamming your hands with the grip. <br> - Make sure that the held object is firmly locked in place before use |
| :---: | :---: |



REPLACEMENT FOR VISE GRIPS

| No. | Product name | Applicable product number | Number |  |
| :--- | :--- | :--- | :---: | :---: |
| $\mathbf{9 1}$ | Screw | 4BN, 4WR, 4LN, 4SP | 5 |  |
| $\mathbf{5 1}$ | Screw | 5WR, 6BN, 6LN, 6R, 6SP | 5 |  |
| $\mathbf{2 1}$ | Screw | 7WR, 7CR, 7R, 8R, 9R, 9BN, 9LN, 9AC | 5 |  |
| $\mathbf{0 7}$ | Screw | 10WR, 10CR, 10R, 20R, 11P, 11R, 11SP,   <br>    <br>    <br> 18R, 18SP, 18DR, 24R, 24SP, 24DR, 12LC   | 5 |  |


| No. | Product name | Applicable product number | Number |  |
| :--- | :--- | :--- | :---: | :--- |
| $\mathbf{9 2}$ | Spring | 4BN, 4WR, 4LN, 4SP | 5 |  |
| $\mathbf{5 2}$ | Spring | 5WR, 6BN, 6LN, 6R, 6SP | 5 |  |
| $\mathbf{2 2}$ | Spring | 7WR, 7CR, 7R, 8R, 9R, 9BN, 9LN, 11P, | 5 |  |
|  |  | $11 R, 11$ SP, 9AC |  |  |
| $\mathbf{0 8}$ | Spring | 10WR, 10CR, 10R, 20R, 12LC | 5 |  |
| $\mathbf{3 4}$ | Spring | 18R, 18SP, 18DR | 5 |  |
| $\mathbf{1 3 7}$ | Spring | 24R, 24SP, 24DR | 5 |  |
| *5 units to one bag. |  |  |  |  |




PROSNIP® type

- Do not use if there is a live electric current.


PROSNIP ${ }^{\ominus}$ type

- Check the direction the cut piece is likely to travel before cutting.
- Use protective goggles when working.
- Close the blade and store when the tool is not going to be used.
- Take case the blade tip for gouging or hitting.
SNIP (STRAICHT LEFT CUTTING)

| No. | L | Cutting power $\mathbf{m m}$ | $\boldsymbol{\nabla}$ g | $\oplus 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 0 1}$ | 250 | 1.25 | 420 | 5 |  |

- Will cut stainless steel to 0.8 mm in thickness.


- Is beneficial for cutting in a straight line and from left to right.
- SNIP (STRAIGHT LEFT CUTTING) Prosnip ${ }^{\text {® }}$


| SNIP (STRAIGHT RICHT CUTTING) <br> No. L |  |  |  |  |  |  | Cutting power mm | $\boldsymbol{\nabla g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 0 2}$ |  |  |  |  |  |  |  |  |  |  |

- Will cut stainless steel to 0.8 mm in thickness.

- Is beneficial for cutting in a straight line and from left to right.
- SNIP (STRAIGHT RIGHT CUTTING) Prosnip ${ }^{\text {® }}$



# 2．CONVENTIONAL TOOLS <br> HAMMERS，CHISELS， and PUNCHES 



Hammer types
－Use the face of the hammer to tap in a perpendicular fashion．
－Do not use if the connection between the head and the grip is loose．
－Do not use if the blade becomes blunt as this will cause ripping and burring from long－term use．
－Do not use in the presence of fire hazards．
－Use protective goggles when working．

－BALL－PEEN HAMMER
－PLASTIC HAMMER


| COMBINATION HAMMER |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Size | L | $\mathbf{W}_{1}$ | $\mathbf{W}_{\mathbf{2}}$ | $\mathbf{H}$ | $\mathbf{V g}$ | $\oplus 日$ |  |
| UD7－10 | 1 LB | 315 | 32 | 30 | 114 | 730 | 1 |  |

－This tool is a combined hammer made from steel and plastic that allows two different uses．
－Specially heat treated head for preventing recess or chipping．
The head is pressed into the shank and a pin tang thru．
－Chrome plated shank is made of high class pipe steel so light and durable． －The grip is made of oil－resistant rubber and offer secure and comfortable gripping －The head can be replaced．
Replacement head（1 attached）

| No． | Application | Material | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: |
| UD7－10－1 | For UD7－10 | Plastic | 1 |  |


| BALL－PEEN HAMMER |
| :--- |
| No． Size L $\mathbf{W}_{1}$ $\mathbf{W}_{2}$ $\mathbf{H}$ $\boldsymbol{\nabla}$ g \＆ |
| PH45－323 |

－Specially heat treated head for preventing recess or chipping
－The head is pressed into the shank and a pin tang thru．
－Chrome plated shank is made of high class pipe steel so light and durable．
－The grip is made of oil－resistant rubber and offer secure and comfortable gripping．

| PLASTIC HAMMER |
| :--- |
| No． |
| UD8－10 |

－The head is constructed from reinforced nylon which prevents cracking and
chipping，also reducing the possibility of chipped materials entering the machine．
－A slit is added to the wooden grip for prevention of slipping．
－The head can be replaced．
Replacement head（1 attached）

| No． | Application | Material | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: |
| UD8－10－1 | For UD8－10 | Plastic（reinforced nylon） | 1 |  |

## －PLASTIC HAMMER



| PLASTIC HAMMER |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． |  |  |  |  |  |  |  |  |
| K9－6 |  |  |  |  |  |  |  |  |

－Head is made of plastic
（Note）The head is not replaceable．

| PLASTIC HAMMER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Size | Material | L | W | H | $\nabla \mathrm{g}$ | $\epsilon$ |  |
| UD3－10 | 1 LB | Plastic | 330 | 35 | 116 | 500 | 1 |  |

－A tapered grip form that raises efficiency and allows for easy familiarization．
－The head can be replaced．
Replacement head（1 attached）

| No． | Application | Material | $\in ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: |
| UD3－10－1 | For UD3－10，UD6－10 | Plastic 1 |  |  |

## －PLASTIC HAMMER



| SHOCK－LESS HAMMER |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Size | Material | L | W | H | Vg | ¢ $¢$ |  |
| UD1－10B | 1 LB | Steel，Plastic | 366 | 36 | 119 | 450 | 1 |  |
| －The head can be replaced．Replacement can be carried out in one single motion without a roll pin．（UD1－10A） <br> －This tool is a combined hammer made from steel and plastic that allows two different uses．The head on the plastic side can be replaced（roll pin type）．（UD1－10B） <br> －The flat hitting side allows for the nailing in of decorative pins or for hitting in center punches．（UD1－10B） <br> Replacement head（1 attached） |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

## －SHOCK－LESS HAMMER



| COPPER HAMMER |
| :--- |
| No． Size Material L W H $\boldsymbol{\nabla g}$ $\oplus$  <br> UD2－10 1 LB Copper 330 30 88 450 1  |

## －COPPER HAMMER

－The head can be replaced（roll pin type）．
－The main structure is made from cast iron
Replacement head（1 attached）

| No． | Application | Material | $\epsilon$ |  |
| :--- | :---: | :---: | :---: | :---: |
| UD2－10－1 | For UD2－10 | Copper | 1 |  |

$\square$

## COMBINATION HAMMER

## －COMBINATION HAMMER

| No． | Size | Material | L | $\mathbf{W}_{1}$ | $\mathbf{W}_{\mathbf{2}}$ | H | $\boldsymbol{\nabla}$ g | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| UD6－10 | 1 LB | Steel，Plastic | 300 | 33 | 32 | 100 | 610 | 1 |  |

－A tapered grip form that raises efficiency and allows for easy familiarization
－This tool is a combined hammer made from steel and plastic that allows two
different operations．
－The head on the plastic side can be replaced
Replacement head（1 attached）

| No． | Application | Material | $\epsilon$ |  |
| :--- | :---: | :---: | :---: | :---: |
| UD3－10－1 | For UD3－10，UD6－10 | Plastic | 1 |  |


RUBBER HAMMER

|  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Size | L | W | H | $\boldsymbol{\nabla g}$ | $\in ⿴$ |  |
| UD4－10 | 1 LB | 330 | 60 | 100 | 450 | 1 |  |

－Excellent quality rubber with high durability is used．

## －RUBBER HAMMER



- MINI HAMMER.SET


- Interchangeable head (iron, plastic, brass) enables use for different applications.
- Interchangeable head (iron,
- Most suitable for press fitting of oil-seals and small bearings, and installation/removal of split pins.
- Complete with each 1 piece of plastic head and brass head.


## Head set (2 each attached)

For TUD3S

| No. | W | Material |  |
| ---: | ---: | :---: | :---: |
| UD1802C | 12 | Brass |  |
|  | F | 12 | Iron |
|  | $\mathbf{P}$ | 12 | Plastic |

For TUD3L

| No. | W | Material |  |
| ---: | :---: | :---: | :---: |
| UD2502C | 4 | Brass |  |
|  | F | 4 | Iron |
|  |  |  |  |
|  | 4 | Plastic |  |



- SHEET METAL PROCESSING HAMMER


*The grip is available as a replacement part. Check with your dealer for details.

- DOUBLE-HEAD HAMMER



## SHEET METAL PROCESSING HAMMER

| No. | Usage | L | W | H | Vg | 甲 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| UD5-1 | Rough | 250 | 38 | 190 | 1600 | 1 |  |
| $\mathbf{- 2}$ | Cone shaping | 300 | 30 | 143 | 290 | 1 |  |
| $\mathbf{- 3}$ | Horizontal | 300 | 30 | 100 | 300 | 1 |  |
| $\mathbf{- 4}$ | Vertical | 300 | 50 | 100 | 390 | $\mathbf{1}$ |  |

UD 9-2


| CHISEL |  |  |  |  |
| :--- | :---: | ---: | ---: | ---: |
| No. | Size | Vg | eq |  |
| UDC-10 | $10 \times 140$ | 70 | 10 |  |
| -13 | $13 \times 160$ | 150 | 10 |  |
| $\mathbf{- 1 6}$ | $16 \times 180$ | 260 | 10 |  |
| -19 | $19 \times 190$ | 290 | 10 |  |
| $-\mathbf{2 5}$ | $25 \times 215$ | 600 | 5 |  |

- Special alloy steel is friction-welded on the edge for more strength and durability. - Chrome plated surface for rust resistance.
- DO NOT USE THE TOOL AS A SUBSTITUTE FOR A HAMMER.
- WEAR SAFETY GLASSES WHEN USING THE TOOL.
- DO NOT USE THE TOOL WITH CHIPPED OR ROUNDED EDGE. - DO NOT TWIST THE TOOL.
- CHISEL

| CENTER PUNCH |  |  |  |
| :---: | :---: | :---: | :---: |
| No. | Size | Vg | *9 |
| UDP-10 | 10×125 | 65 | 10 |
| -13 | $13 \times 150$ | 130 | 10 |

## Characteristics

- Made with special steel alloy for durability and strength.
- Galvanized surface to prevent rust.
- The handle is knurled to prevent slippage.
! $^{\text {caution }}$. Use protective goggles when working.
- Do not use a punch with a chipped or rounded tip.
- Do not use with force as the blade may beak or shatter


## CENTER PUNCH



UDP-10

| KNOCK PIN PUNCH.SET (3pes.) • (8pcs.) |  |  |
| :---: | :---: | :---: |
| No. PK3 | Vg 300 | $\oplus 10$ |
| Knock Pin Punch Set (3pcs.) | PK-4185, 45185, 5190 |  |
| No. PK8 | Vg 960 | $\leftrightarrow 9$ |
| Knock Pin Punch Set (8pcs.) | PK-2125, | 4185, |


| KNOCK PIN PUNCH |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  |  |  |  |  |
| PK-2125 |  |  |  |  |  |  |  |  |
| $\mathbf{N o}$ |  |  |  |  |  |  |  |  |
| -3135 |  |  |  |  |  |  |  |  |


| Spare Parts |  |  |  |
| :--- | :--- | :---: | :---: |
| No. | Product | Number |  |
| PK-2125-4 | Chucking rubber | 1 |  |
| $-3135-4$ | Chucking rubber | 1 |  |
| $-4185-4$ | Chucking rubber | 1 |  |
| $-45185-4$ | Chucking rubber | 1 |  |
| $-5190-4$ | Chucking rubber | 1 |  |
| $-6207-4$ | Chucking rubber | 1 |  |
| $-7212-4$ | Chucking rubber | 1 |  |
| $-8217-4$ | Chucking rubber | 1 |  |

- KNOCK PIN PUNCH SET (3 or 8pcs.)


PK8


- Set of most frequently used sizes.
- Vinyl coated handle is hexagonal from, which prevents from rolling off.
- With chucking rubber at the point.
$\lambda^{\text {caution } \cdot \text { WHEN USING THE TOOL, WEAR SAFETY EYE GLASSES. }}$
- USE A TOOL APPROPRIATE TO THE SIZE OF AN OBJECT. - SET THE CHUCKING RUBBER SECURELY.

| AUTO PUNCH |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | L | $\ell 1$ | $\ell 2$ | D1 | D2 | Vg |  |
| UDP-4 | 160 | 90 | 70 | 28 | 34 | 160 |  |

Punches for Replacement

## No. UDP-4-1

## Application

- For making when attaching optional parts. To eliminating distortion during sheet metal processing.
- For marking the fitting point to engage the parts

Features

- Punch tip is made of highly durable hard steel.
- Continuous operations enhance operability
- Quick marking with one hand without a hamme
- Strength of punching adjustable by turning the handle
* Harder punch: turn clockwise. Softer punch: turn counter-clockwise.
* The punch is made of abrasion-resistant SK steel.



## -AUTO PUNCH



## CONVENTIONAL TOOLS

SCRAPERS，FILES and BRUSES


Scraper is a tool with a spatula－shaped blade．It can be used in
various usages such as scraping off of residue of sealant，gasket and packing of engines in automobile or industrial machinery，removing of rust and deburring of cutting trace．

File is a rod－shaped tool for the scraping and polishing of metal or wood．It is divided into different types such as woodworking and ironworking depending on the fineness and blade shape．Cloth－type is called emery paper or sandpaper．

Brush is used in various fields，but the representative industrial brush is the metal wire brush with hard bristles．It is used for removing of dirt and rust，polishing and the like．
－Scraper Chart

|  | Short | Standard | Long |
| :---: | :---: | :---: | :---: |
| Ceramic | KZ4S-18 |  |  |
| Carbide Blade | KZ2S-18 | KZ2-18A |  |
| Hard Steel Edge |  | KZ3-18A |  |
| Stainless Steel | KZ1S-15 |  |  |
| Hard Steel Edge （for Sticker） |  |  |  |

## Proper Tool Use



## CAUTION Scrapers

－Please do not use it as a chisel，lever or knife
－Please do not use it as a hammer．
－Please do not apply an impact by tapping with a hammer，etc．
－Please do not use it if crack，chip，wear or deformation is detected．

## Scrapers（Spare Blade）

－Please do not use the spare blade as a substitute for razor blade．
－Please beware of the cutting edge when replacing the blade

| No. KZ142A | $\boldsymbol{\nabla}$ g 80 | Blade Width 12mm KZ4-12 |
| :--- | :--- | :--- |
| Ceramic Scraper | Blade Width 10mm KZ1-10 |  |
| Stainless Scraper | $\boldsymbol{\nabla g} 130 \quad$ Blade Width 18mm KZ4-18 |  |
| CERAMIC AND STAINLESS SCRAPER SET B |  |  |
| No. KZ142B | Blade Width 15mm KZ1-15 |  |
| Ceramic Scraper |  |  |
| Stainless Scraper |  |  |

$\rfloor^{\text {caution }} \cdot$ DO NOT USE AS A SUBSTITUTE OF A CHISEL, LEVER, CUTTER ETC.

## CERAMIC SCRAPER SHORT

- CERAMIC SCRAPER SHORT

| No. | A | T | L | $\boldsymbol{\nabla}$ g | $\epsilon 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| KZ4S-18 | 18 | 3 | 115 | 50 | 20 |  |

- It is excellent in wear resistance. * It uses a ceramic chip that causes less rust and deformation.
- The blade does not bite in, allowing the smooth cutting
- Scrapes, glue and the like do not adhere to the blade.
- Both sides of blade can be used.
* Impact (hitting, prying) and drop may damage the tip, so please be careful in handling. * Ceramic chip is not sold by itself.
L

| CERAMIC SCRAPER |
| :--- |
| No. |
| KZ4-12 |
| -18 |

Purpose

- Scraping and finishing the surface of automotive engines and gaskets of industrial machineries, etc


## Special feature

- Superb wear resistance. and smooth cutting
- Ceramic tip for preventing rust and deformation
- Tip does not adhere to sticky gasket, seal, gum, etc

Both sides of the blade can be used


- CERAMIC SCRAPER ${ }_{\text {d. Pat. }}$

-CERAMIC SCRAPER LONG
L-


| CERAMIC SCRAPER LONG |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | A | T | L | Vg | ${ }^{\oplus}$ |
| KZ4L-1 | 18 | 3 | 262 | 80 | 20 |

- It is excellent in wear resistance. * It uses a ceramic chip that causes less rust and deformation.
- The blade does not bite in, allowing the smooth cutting.
- Scrapes, glue and the like do not adhere to the blade.
- Both sides of blade can be used.
* Impact (hitting, prying) and drop may damage the tip, so please be careful in handling. * Ceramic chip is not sold by itself.
- Blade width is small, to avoid scraping with blade at vertical position.

| STAINLESS SCRAPER SET |  |  |
| :--- | :--- | :--- |
| No. TKZ1153 | Vg 182 | ¢ 10 |
| Stainless Scraper Short | KZ1S-15 | Blade width 15 mm |
| Stainless Scraper | KZ1-15 | Blade width 15 mm |
| Stainless Scraper Long | KZ1L-15 | Blade width 15 mm |

- It is a stainless scraper set with various handle lengths.
- STAINLESS SCRAPER SET
$\rfloor^{\text {cAution }}$ • Please do not use it as a chisel, lever or knife.

KZ1-15

STAINLESS SCRAPER SHORT

| No． | A | T | L | Vg | $\notin 日$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| KZ1S－15 | 15 | 1.4 | 110 | 50 | 20 |  |

－It can be used in tight spaces with the shorter handle than the conventional．
＊Since the tip width is narrow，be careful not to stand the edge too much．
$\bigwedge^{\text {caution }} \cdot$ Please do not use it as a chisel，lever or knife．

－HIGH CLASS SCRAPER SET（2pcs．）


## －HARD METAL SCRAPER SHORT



| STAINLESS SCRAPER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | A | T | L | Vg | $\oplus$ |
| KZ1－10 | 10 | 1.4 | 165 | 50 | 5 |
| －15 | 15 | 1.4 | 170 | 52 | 5 |
| －22 | 22 | 1.4 | 180 | 80 | 5 |
| －30 | 30 | 1.4 | 180 | 80 | 5 |

Special feature
－Set of stainless scrapers of different blade width for multi purposes．
$\Delta^{\text {ananon }}$ ．do not use as A Substitute of A CHISEL，Lever，Cutter etc．

STAINLESS SCRAPER LONG

| No． | A | T | L | $\boldsymbol{\nabla g}$ | $\notin$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| KZ1L－15 | 15 | 1.4 | 260 | 80 | 20 |  |

－It can be used in deep spaces with the longer handle than the conventional．
＊Since the tip width is narrow，be careful not to stand the edge too much．
$\bigwedge^{\text {caution }} \cdot$ Please do not use it as a chisel，lever or knife．

| HICH CLASS SCRAPER SET（2pcs．） |  |  |
| :---: | :---: | :---: |
| No．TKZ232A | Vg 110 | ¢ 10 |
| H．S．S． | KZ2－18A | Blade Width 18 mm |
| Hard Steel | KZ3－18A | Blade Width 18mm |
| Purpose |  |  |
| －Scraping gask <br> －Cleaning． <br> －For scraping h <br> －Superb wear re <br> －Specially heat the edge at on | gaskets eas <br> erb durabil <br> 8） | and finishing for clean surface． so can be used for long time a |

$\bigwedge^{\text {caunon }}$－DO NOT USE AS A SUBSTtitute OF A CHISEL，LEVER，CUTTER ETC

$|$| HARD METAL SCRAPER SHORT |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | A | T | L | $\boldsymbol{\nabla g}$ | $\notin$ |  |
| KZ2S－18 | 18 | 1 | 118 | 50 | 5 |  |

－Carbide tip is used on the cutting edge．
－It can be used in tight spaces with the shorter handle than the conventional．
$\rfloor^{\text {caution }}$－Please do not use it as a chisel，lever or knife．


## －HARD METAL SCRAPER LONG

| HARD METAL SCRAPER |
| :--- |
|        <br> No． A T L $\boldsymbol{\nabla g}$ $\oplus$  <br> KZ2－18A 18 1 180 55 5  |

$\left\lfloor^{\text {caution }} \cdot\right.$ Please do not use it as a chisel，lever or knife．

| HARD METAL SCRAPER LONG |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． |  |  |  |  |  |  |  |

－Carbide tip is used on the cutting edge．
－It can be used in deep spaces with the longer handle than the conventional．
$\bigwedge^{\text {CAUTION }}$－Please do not use it as a chisel，lever or knife

- It uses a hard steel edge with less wear.
HARD STEEL SCRAPER LONG

| No. | A | T | L | $\boldsymbol{\nabla g}$ | $\notin ⿴$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| KZ3L-18 | 18 | 1.4 | 265 | 80 | 5 |  |

- It uses a hard steel edge with less wear.
- It can be used in deep spaces with the longer handle than the conventional.
$\bigwedge^{\text {caution }}$ - Please do not use it as a chisel, lever or knife.


## STICKER SCRAPER • SPARE BLADE

- STICKER SCRAPER \& SPARE BLADE
STICKER SCRAPER

| No. | Blade Width | L | $\mathbf{\nabla g}$ | $\epsilon \in$ |
| :--- | :---: | :---: | :---: | :---: |
| KZS-40 | 40 | 155 | 110 | 10 |
| Special feature |  |  |  |  |
| For speedy, neatly, and safety sticker scraping. |  |  |  |  |
| Sharp edge for clean finish. |  |  |  |  |
| Fixed blade for preventing the position from changing. |  |  |  |  |
| Comfortable grip for easy operation. |  |  |  |  |
| SPARE BLADE |  |  |  |  |
| No. |  |  |  |  |
| KZS-4010 | Contents |  |  |  |

caution. DO NOT USE THE SPARE BLADE AS A SUBSTITUTE OF A SHAVING BLADE - BE CAREFUL OF THE EDGE WHEN CHANGING THE BLADE.


## HIGH CLASS STICKER SCRAPER • SPARE BLADE

-STICKER SCRAPER DX \& SPARE BLADE d. pat.
STICKER SCRAPER

| No. | L | W | H | $\mathbf{V g}$ | $\varphi$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| KZSS-25 | 150 | 40 | 19 | 120 | 10 |  |

Special feature

- Easier job with unique 25 mm blade width and round-shaped supporter for the blade.
- Built in space in the grip for storing optional spare blades set of 10pcs.
- 5pcs. spare blades as the standard accessory



## SET OF SMALL FILES

- SMALL FILE


ZKF1-2HR



| ENGINEER＇S FILE（WOODEN HANDLE） |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: |
| No． | Shape | Type | L | $\mathbf{W}_{\mathbf{1}}$ | $\mathbf{W}_{\mathbf{2}}$ | $\mathbf{D}$ | $\mathbf{\nabla g}$ | $\oplus$ |  |
| ZKF2－2H | Flat | Mid | 250 | 25 | 22 | - | 260 | 5 |  |
| $\mathbf{- 2 H R}$ | Half Round | Mid | 250 | 25 | 15 | - | 240 | 5 |  |
| $\mathbf{- 2 R}$ | Round | Mid | 250 | $\varnothing 10$ | $\varnothing 5.2$ | - | 150 | 5 |  |
| －HR | Wood Hande | Mid | 115 | - | - | $\varnothing 23$ | 30 | 10 |  |

ZKF2－HR

Aaman．Donot TMST THE Tool．


Shape

－ABRASIVE PAPER WATERPROOF ABRASIVE PAPER
Supply will be in packing unit shown in the table．


ABRASIVE PAPER • WATERPROOF ABRASIVE PAPER

ABRASIVE PAPER

| No． | Size | $\oplus$ |  |
| :--- | :---: | :---: | :--- |
| YWP－ 400 | $228 \times 280$ | 100 |  |
| -600 | $228 \times 280$ | 100 |  |
| -800 | $228 \times 280$ | 100 |  |
| -1000 | $228 \times 280$ | 100 |  |
| -1200 | $228 \times 280$ | 100 |  |

grains on the papers．

$!^{\text {CAUTION }} \cdot$ WEAR SAFETY GLASSES WHEN USING THE TOOL．
－NAIL AND HAND BRUSH


| NAIL AND HAND BRUSH |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Size（material） |  |  | $\nabla \mathrm{g}$ | \＆ |
|  | Base | Top（for nail） | Bottom（for palm） |  |  |
| YTHB－100 | $\begin{gathered} 100 \times 20 \times 38 \\ (P P) \end{gathered}$ | $\left\lvert\, \begin{gathered} 90 \times 5 \times 18 \\ \text { (white hog bristle) } \end{gathered}\right.$ | $88 \times 15 \times 23$ <br> Tampico （Mexican fiber） | 65 | 1 |

－Brushes for nail，fingertip and palm are made into one
－Upper brush for nail／fingertip is made of white hog bristle placed in arch shape
－Lower brush for palm is made of Tampico．
－Base is made of mold resistant PP（polypropylene）that allows cleanliness to be maintained．
＊Please avoid the use of kerosene or detergent．

OBRUSH
BRUSH


## Features

－Brass plated wire brush for more durability．（YTBR－112，132，142，122， 1221 \＆1222）
－The wood section of the shank is made of timber from thinning，that is used in consideration for preservation of natural environments．
$\wedge^{\text {caution }} \cdot \mathrm{WEAR}$ SAFETY GLASSES WHEN USING THE TOOL． ADJUSTABLE WRENCHES, PIPE WRENCHES and GEAR PULLERS


Pipe wrenches

- Use this tool within the range of the outer diameter of the pipe being held. - Firmly hold the wrench perpendicular to the pipe and hold firmly at the center.
- Do not apply force sideways.
- Do not use by adding on pipes, etc.
- Do not use this tool as a hammer.
- Do not apply strong impact on this tool by hitting it with a hammer, etc.
- Do not use when the teeth are chipped or worn, or when blocking has occurred.
- ADJUSTABLE WRENCH

$\mathrm{T}_{2} \xrightarrow{I T I}$




## Basic courses on hand tools <br> part2.

## SCREWDRIVER

A screwdriver is a common tool that can be found in family homes. The screwdriver is used for tightening and loosening screws. Along with the more common cross and flat screwdrivers, there are hex bolt/nut screwdrivers, hex hole bolt screwdrivers, TORX. screwdrivers, etc. according to the purpose.


Types of screwdrivers

There are cross $(\oplus$, and sometimes referred to as Philips) screwdrivers and flat $(\Theta)$ screwdrivers. In many cases KTC color codes the handles red or orange ( $\oplus$ or cross) and green ( $\odot$ or flat).
The size of the cross screwdriver is determined by the size of the screw it turns.
The KTC lineup of cross screwdrivers covers the following screw sizes: No. 00, No. 0, No.1, No. 2, No. 3, No. 4 but No.1~No. 3 are most commonly used. The flat screwdriver size is determined by the length from the tip to the base of the shaft or by the width of the tip. Flat screwdrivers with a shaft length between 75 mm and 150 mm or a tip width between 5.5 mm and 8 mm are used most frequently.


Hexagon screwdrivers
This screwdriver is used to turn bolts with hex holes.

## Selecting screwdrivers



Flat ratchet screwdriver
The ratchet structure allows for the forward and reverse movement alone to tighten and loosen screws.


Removing and attaching screws that require large torque.

Refer to "Selecting screwdrivers" (P.189) listed in the section on conventional tools - screwdrivers for information on basic selection methods.

## How to use the screwdriver

The basic movement in using a screwdriver is "push and turn" - pushing the screw and turning at the same time. Generally, the ratio between pushing and turning is $7: 3$, however, with hard-tightened screws, the pushing force must be increased in order to prevent the tip from slipping off the screw or damaging the screw. The center of the screwdriver shaft and the center of the screw must match for flat screwdrivers. Not only is turning difficult but the screw and/or screwdriver tip may become damaged if the center does not match.

It is also important to select the screwdriver size that matches the number allocated to the screw. The key to selecting the right size is to initially select a screwdriver that is slightly larger than the size of the screw. By selecting screwdrivers one size below the first screwdriver, the right match will be found. Once the perfect fitting screwdriver has been found, the operation can commence. If the size of the screwdriver is smaller than the size of the screw cross, the gap will increase, resulting in damaging the cross-hole of the screw.


## Impact screwdriver

By holding the grip and hitting the base of the tool with a hammer, the strength of the impact turns the screw. This method is effective for turning tightly screwed screws or rusty screws.


Impact screwdriver
Apply impact to a hard tightened
screw in order to loosen.
Cor
In


## Proper use of the tools

- Do not hold materials in one hand and the screwdriver in the other as it is unsafe. Carry out maintenance in a safe, stable position.

- The plastic on the grip does not provide insulation against electrical current. Do not use if there is a live electric current.
-Do not use this tool as a lever or chisel.
-Do not use this tool as a hammer.
-Do not apply strong impact on this tool by hitting it with a hammer, etc.
-Use screwdrivers that conform to the size of the
 screws.


## Basic courses on hand tools part2.

## BOX END WRENCH • OPEN END WRENCH

Bolts and nuts are used not only in engines, machines, and automobiles but also in building structures, furniture, and various places. The box end wrenches, open end wrenches, and combination wrenches are used for the attachment and removal of bolts and nuts.

## Box end wrench

Basic structure of the box end wrench


Like the open end wrench, the box end wrench is a tool that is used to tighten and loosen bolts and nuts. Where the open end wrench holds the bolt/nut in two points, the box end wrench holds the bolt/nut in 6 points. The ring-form of the box end wrench prevents the head from slipping off the bolt/nut allowing even distribution of load, resulting in the application of more force than the open end wrench. The box end wrench is composed of the head used to grasp bolts/nuts and the grip. The nickname "eyeglass wrench" in Japan comes from the ring-form grip head on both sides of the grip. The head section is normally dodecagonal (12 sided/double hex) with a deflection angle of $30^{\circ}$, allowing the turning of bolts/nuts. The size of the box end wrench is expressed from the width-across flat of the diameter as in open end wrenches. For example, the box end wrench that can turn bolts and nuts with a width-across flat of 12 mm and 14 mm is called $12 \times 14$. KTC offers box end wrenches between 5.5 mm and 46 mm .


Box end wrench Open end wrench

## Box end wrench types



Box end wrench for brake pipes
This box end wrench is mainly used for the flare nuts on the brake pipes of automobiles. The tip of the head is open, making this type suitable for working on nuts in piping connections.


## Combination wrench

One side has a ring-form head and the other has an open end wrench head. The open end wrench is suitable for quick turning and the ringform head is suitable for applying force as an offset wrench.

## Classification of box end wrenches

Classification through total length - short type or long type
The long type is more commonly used. The longer wrench provides more force when turning, but is difficult to use in confined spaces. KTC also provides a super-long type straight offset wrench (M160) together with the previous long type.

Classification according to the angle of the handle -
straight type $\cdot 15$ degree type $\cdot 30$ degree type $\cdot 45$ degree type
A variety of types are available according to the working environment but the $45^{\circ}$ type is the most common wrench. KTC offers the $45^{\circ} \times 6^{\circ}$ and the $45^{\circ} \times 10^{\circ}$ types (NEPROS®, M5, M27, M28) that allow for easy operation and increased application of force.

## Using the box end wrench

Select the correct diameter according to the width-across-flat of the bolt/nut and cover the bolt/nut with the ring-form head from above. The hex edge of the bolt/nut can slip or jar dangerously if the gap between the offset wrench diameter and the bolt/nut is too big. Select the right size offset wrench for the bolt/nut and firmly place the ring form to the end.


## Open end wrench



The open end wrench is a basic tool used to tighten or loosen nuts. The open end wrench holds the bolt/nut across the flat side in two places. Open end wrench size is determined through the width-across-flat of the diameter.
For example, the open end wrench that can turn bolts and nuts with a width-across flat of 12 mm and 14 mm is called $12 \times 14$.
KTC offers open end wrenches between 5.5 mm and 46 mm .

The open end wrench is included in vehicle maintenance tools and is commonly known. However, professional mechanics rely on offset wrenches that offer firmer control.

## Types of open end wrenches



Slim type open end wrench (Tappet open end wrench)
This open end wrench is thin with a long grip, making it suitable for adjusting the tappets.


Flex socket spanner
The other end is an offset socket wrench, allowing for quick turning using the spanner and final adjustments using the socket.


PROFIT® open end wrench
This open end wrench is an original thin slim design by KTC allowing work to be completed effectively in hard to reach areas, difficult with previous open end wrenches.

## Classification of open end wrenches

Classification through total length - - standard type or long type
The longer open end wrench provides more force when turning, but is difficult to use in confined spaces.
Classification through head shape - - round • spear • new spear types
The spear type is small compared to the round type, making work in narrow areas easy. It is also often used in automobiles as the head weight is reduced. All KTC open end wrenches are spear types. NEPROS ${ }_{\star}$ and $21^{\text {st }}$ Century Version Tools offers advanced, new original spear heads by KTC with minimal outer diameters and large volume in areas where strength is applied compared to previous spear types.

## How to use the open end wrench

The open end wrench is effective on the return as well.
For safety, pull towards you if the turning angle against the bolt/nut is obtuse. Push away from you if the turning angle is acute.



Using the open end wrench in confined spaces
Common open end wrenches have an angle of $15^{\circ}$ against the grip. By using the front and flip sides of the open end wrench, a leverage of $30^{\circ}$ and half the angle allows the bolt/nut to turn, making it convenient to use in confined spaces.


## Proper use of the tools

- The offset wrench must completely cover the bolt/nut before turning.
- Do not use this tool as a hammer.

-Do not attach the open end wrench diagonally towards the bolt/nut.
-Do not link two open end wrenches together.
- Use tools that conform to the size of the bolts and nuts.
- Do not use by adding on pipes, etc.

-Do not apply strong impact on this tool by hitting it with a hammer, etc.
- Firmly hold the bolts and nuts using the end of the tool mouth.



## Basic courses on hand tools part2.

## ADJUSTABLE WRENCH

The adjustable wrench is able to turn several kinds of bolts and nuts, by adjusting the worm on the head section. Monkey wrench is the slang term in English. The nick name "monkey wrench" is said to have come from the inventor Charles Moncky or from the theory that the head section is shaped like a monkey. The correct term is Adjustable Wrench.


Adjustable wrenches are divided into $15^{\circ}$ and the $23^{\circ}$ types according to the angle of the head.
KTC offers both $15^{\circ}$ and $23^{\circ}$ adjustable wrenches. SSize dimensions of the adjustable wrench all display the total length. SSize dimensions are displayed on the grip section. The maximum opening (maximum size of the bolt/nut that can be turned) as opposed to the size dimension is determined.

| Size dimension (mm) | 150 | 200 | 250 | 300 | 375 | 450 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum opening $(\mathrm{mm})$ | 20 | 24 | 29 | 34 | 44 | 53 |

## How to use the adjustable wrench

The adjustable wrench is basically used like an open end wrench with an adjustable opening. Widen the opening by turning the worm with the thumb. Match the upper jaw to the bolt/nut and bring in the lower jaw by twisting the worm until the bolt/nut is firmly grasped. Move the adjustable wrench up and down in order to check for looseness. Turn the bolt and nut after re-gripping the grip.
The direction of the turn is important. Always turn adjustable wrenches towards the lower jaw side.
Turning towards the upper jaw will stress the lower jaw, causing the tool to break.
Any movementAny play in the lower jaw of the adjustable wrench causes loosening. Do not apply excessive torque. Take care when using an adjustable wrench for turning small bolts/nuts as the play can becomes larger. Like the open end wrench, the adjustable wrench only holds the bolt/nut in two places.
 When high torque is needed, use the socket wrench/offset wrench as these tools hold the nut in 6 points.

## Proper use of the tools

- Firmly adjust the mouth width to the bolts and nuts using the end of the mouth.

- Do not apply strong impact on this tool by hitting it with a hammer, etc.

- Do not use this tool as a hammer.
- Do not use by adding on pipes, etc.


[^0]:    $\bigwedge^{\text {caution }}$ • HOLD GRIP IN THE CENTER, OTHERWISE HAND MAY BE CAUGHT IN THE DRIVING SECTION $\ \bigwedge^{\text {CAUTION }} \cdot$ BE CAREFUL ABOUT OVER TORQUE, AS THE WHOLE LENGTH LONG ENOUGH TO APPLY EXCESSIVE LOAD.

[^1]:    OThe case is listed on P. 344

[^2]:    －The tool allows a diagonal rotating operation up to 25 degrees，facilitating access in confined

[^3]:    -With a long neck (length 300 mm ), the six sided type is useful in hard to reach area
    around engines

    - With hexagonal bolster.
    - Cr-V is used for shaft material.
    - The tip is magnetized.
    

[^4]:    - Palm-friendly native wood is used for grip.
    - The shaft is through type and the tip is magnetized

[^5]:    - The claws are interchangeable. The caulked part of the grips has little looseness. The

[^6]:    *Replaceable parts are available for the opening/closing spring and screw. Check with your dealer for details.

