

Replacing various belts

ENGINE

5 AUTOMOTIVE SPECIAL TOOLS

Can reach a wide range of locations.

FREE POSITION WRENCH SET

●FREE POSITION WRENCH SET PAT.P. D.PAT.

Belt replacement 1

Usage

• Can be used to tighten and loosen nuts and bolts in confined areas.

<Example>

• Vehicle engine starters on automobiles, on engine mounts, on manifolds, fitting air conditioners
Bolts, adjusting bolts on various types of belts, around drive shafts, flanges, and around piping

Characteristics

- Can be used on a wide range of different sized nuts and bolts. (Photo 1)
- Because the wrench and wrench handle are separate entities, they can be combined at the rear side of the wrench socket to be used in a variety of ways. (Photo 2)
- The wrench itself can be set in 24 different positions at 15° intervals off the handle so that work can be carried out at a variety of different angles.
- If the wrench bit and the exclusive handle are used in the "free" state, the wrench may be operated at a high speed. (Photo 3)
- The wrench is a compact, flat ratchet type (15°)



<Example> Wagon R Compressor Removal/Installation

(Photo 1) Wide variation of sizes



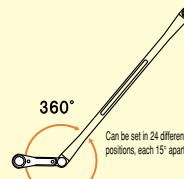
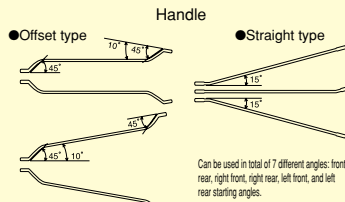
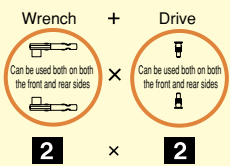
(Photo 2) Wrench and handle are separate for combination as required



(Photo 3) Fast operation is possible with crank motion.



The wrench, drive and handle combination makes any job possible.



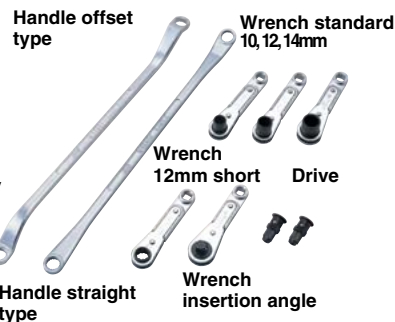
2 x 2 x 7 = 672 different wrench positions are possible.

●Free positioning wrench set

No. ATE104	▼kg1.2	☑1
Free positioning wrench	AE101-10, 12, 14	
Free positioning wrench handle	AE102 <Offset>	
	*including drive	
No. ATE107	▼kg1.7	☑1
Free positioning wrench	AE101-10, 12, 14	
12mm short	AE101-12S	
Insertion angle 3/8"sq.	AE101-3R	
Free positioning wrench handle	AE102 <Offset>	
	*including drive	
	AE103 <Straight>	



*ATE104, 107 includes blister tray
Tray size (L450×W150×H40)



●Free positioning wrench/ standard

No.	S	D	T	t	d	L	▼g	☑
AE101-10	10	24	24.5	10.5	14.5	106	130	5
-12	12	24	27.5	10.5	17	106	130	5
-13	13	28.5	28	11.5	18.5	106	150	5
-14	14	28.5	28	11.5	20	106	150	5
-15	15	28.5	28	11.5	21	106	150	5
-17	17	34.5	28.5	11.5	24	113	180	5
-19	19	34.5	28.5	11.5	26	113	180	5

●Free positioning wrench

No.	S	D	T	t	d	L	▼g	☑
AE101-12S	12	24	14	10.5	17	106	115	5

• Suitable for cooler belt adjustment bolts on the Suzuki Alto Wagon R (F6A, K6A).

●Free position wrench/3.8"sq.

No.	▼g	☑
AE101-3R	155	5

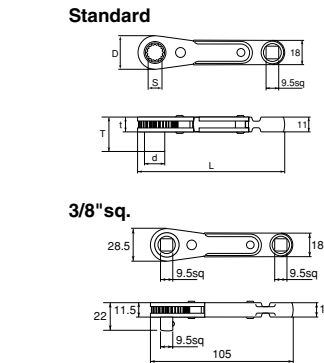
- As the tools are equipped with an insertion angle, it is possible to use the wrench on a 9.5sq standard semi-deep socket or a deep socket, etc.
- The wrench can be used on automobiles ranging from light to One-box type (including imported vehicles). <Recommended for 5.5-14mm hexagonal bolts and nuts with 2-faced widths.>
- Although limited, can also be used as short wrench.

●Free positioning wrench handle (offset type) <AE102-HD+AE102-DA>

No.	D	T	L	▼g	☑
AE102	22	31	370	320	1

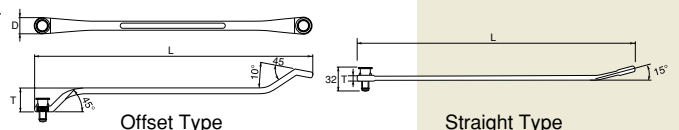
●Free positioning wrench handle (straight type) <AE103-HD+AE102-DA>

No.	D	T	L	▼g	☑
AE103	22	7	370	210	1



[Free positioning wrench series chart]

Product name	Product number	AE102	AE103	ATE104	ATE112	ATE107	
Wrench	Standard	AE101-10					
		-12		●		●	
		-13					●
		-14			●		●
		-15					
		-17					
Handle	12mm short	AE101-12S				●	
	Insertion angle 3/8"sq.	AE101-3R			●	●	
	Offset type (45°/45°×10°)	AE102-HD	●		●	●	
	Straight Type (0°×15°)	AE103-HD		●		●	
Drive	AE102-DA	●	●	●	●	●×2	



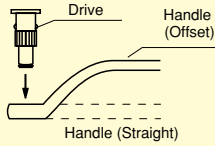
*Please check the merchandise inventory for a product that is marked by before placing an order.

● Method of use

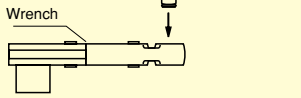
Connecting the wrench and the handle

- ① Insert the drive to the back of the handle.
- ② Push down on the top of the driver, to insert the driver into the square shaped hole of the wrench.

① Insert the driver

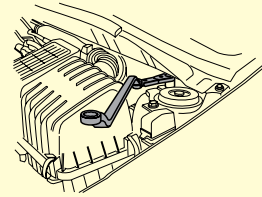
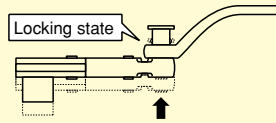


② Push down on the top of the driver, to insert.



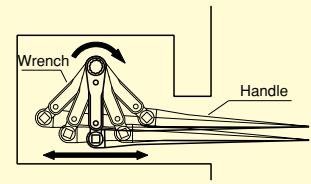
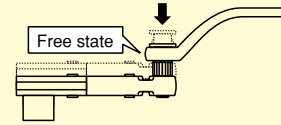
Loosening/tightening bolts & nuts

Lock the connecting area of the handle and the wrench together and then set in the desired angle.
(The wrench can be set in 24 positions at 15° increments)



Place in a free state for high speed rotation

High speed crank operation is possible by pulling and pushing the handle.



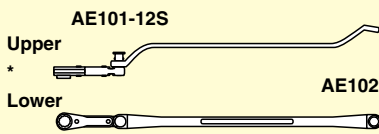
● Examples

The illustrations below show 2 pictures. The upper picture shows what the tool looks like when pieced together. The lower picture shows the fixed angle that the tool is used at.

① Suzuki Alto

Cooler belt adjustment

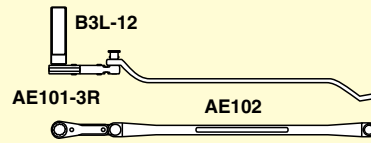
- A thin shaped socket is extremely effective when used in engine compartment



② Daihatsu Move

Alternator belt adjustment

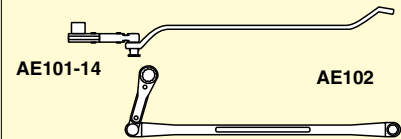
- This type is easy to use inside engine compartment.



③ Nissan Cube

Starter installation bolt

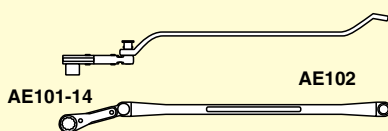
- This type can be used in a lifted up position.



④ Toyota Bitz

Drive shaft mount stay

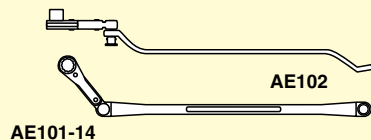
- This type can reach deep areas if in a lift up position.



⑤ Toyota Voxy

Strut tower installation bolt

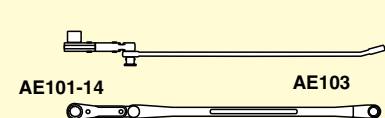
- Excellent for replacing the struts in engine compartment.



⑥ Mitsubishi Chariot Grandes

Power steering belt adjustment

- Can be used in pipe crossing in engine compartment.



Serpentine belt replacement

ENGINE

5 AUTOMOTIVE SPECIAL TOOLS

ENGINE

BELT TENSIONER WRENCH SET

No. ATE175	▼kg 1	1
Belt tensioner wrench	AE107-500	
Exclusive socket 14,17,19mm	AE107-14W,17W,19W	
3/8" sq. Driver	AE107-3A	

Usage

- This is an exclusive tool for loosening the tensioner when replacing belts used in vehicles that are fitted with auto-tension type drive belts (with 1 belt only).

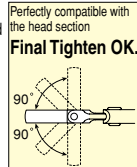
Application

- Is effective for working on domestic vehicles from light-weight to normal passenger vehicles, and especially on One-box type vehicles (FF vehicles).

Characteristics

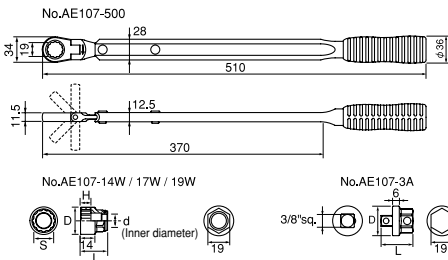
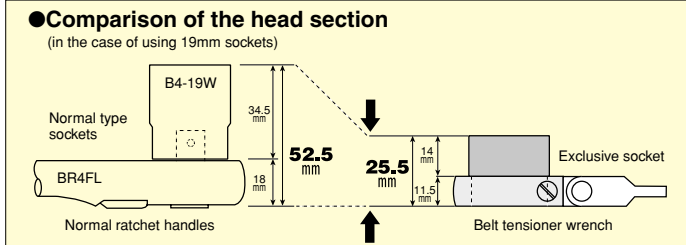
Wrench

- This is a thin, exclusive long rotating head ratchet off-set wrench used for working on vehicles fitted with auto-tensioning. A large swing angle can be taken while working inside small engine compartments without interfering with pulleys and other obstacles.
- Provides easy operations on damper type auto-tensioners fitted in many heavy FF vehicles because of a non-slip, easy hold, and resin type grip.



Exclusive socket 3/8" sq. Driver

- The exclusive socket can be set at 14/17/19mm, and is convenient where socket length must be changed frequently.
- A pierced type of thin design that helps eliminate slipping off the bolt.
- Normal sockets can also be used as the 3/8"sq driver is installed onto the offset area of auto-tensioner wrench.



Replacement parts: Belt tensioner wrench

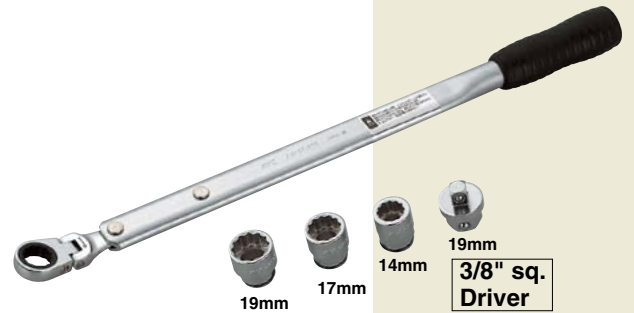
No.	▼g
AE107-500	850

Exclusive Socket 3/8"sq. Driver

Product name	No.	S	D	d	H	L	▼g
Exclusive socket 14mm	AE107-14W	14	22	11	8.5	26	35
17mm	-17W	17	24	13	9	26	40
19mm	-19W	19	26	13	9	26	40
3/8" sq. Driver	-3A	-	26	-	-	28	60

●BELT TENSIONER WRENCH SET

Belt replacement **1**

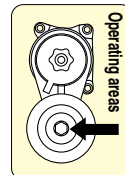
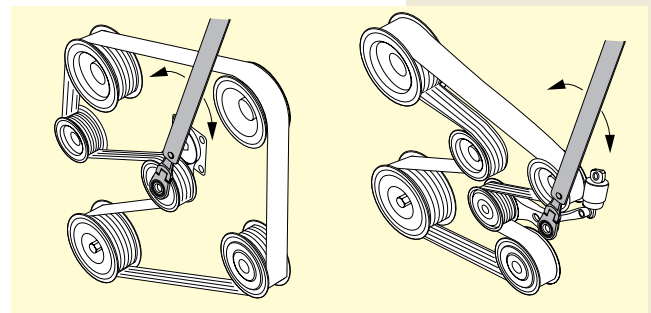


Exclusive socket

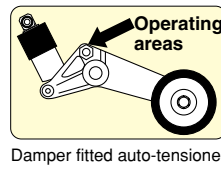
Covers a wide range of domestic vehicles.



Insert the exclusive hexagonal socket into the offset section.



Auto-tensioner



Damper fitted auto-tensioner

- CAUTION**
- Make sure that all operators read the Owner's Operator Manual carefully before usage.
 - Do not use for non-specified purposes.

ENGINE

Serpentine belt replacement

1 Belt replacement

●BELT WRENCH SET (for mini-cars only)

BELT WRENCH SET (for mini-cars)

No. ATE109	▼g 410	📦 1
Belt wrench		
Proprietary socket		

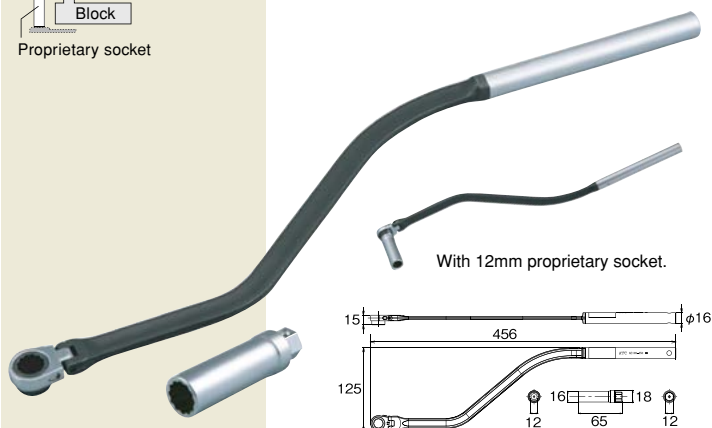
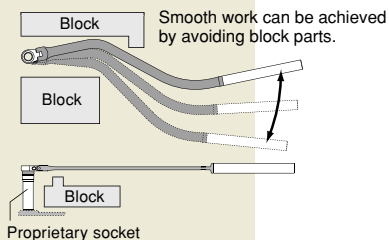
No.	Name	▼g
AE109-450	Belt wrench	345
AE109-12W	Proprietary socket	65

Application

- Replacement and adjustment of Suzuki air conditioner belts (Wagon R [After September, 2008], MR Wagon [After January, 2006]) (Only the main unit)
- Replacement and adjustment of Daihatsu air conditioner and power steering belts (Move [after December, 2008], Tanto [After December, 2007]) (Main unit + proprietary socket)

Features

- Smooth work can be achieved by avoiding block with its unique shape.
- Optimum shape can be obtained for the engines of Daihatsu vehicles using the proprietary socket.
- Since a ratchet head is used at the end, work can be comfortably performed.
- Working time can be reduced only by removing the license plate.
- Removal of the bumper for replacement of the belt is not required.



Since work can be performed only by removing the license plate, it is effective for reduction of time.

●BELT HOOK TOOL

Expected release date: July 2005

BELT HOOK TOOL

No.	d	D	L	ℓ	▼g	📦
AE108	6	34	660	540	200	1

Removal of auto-tension type drive belts is easier when a belt tensioner wrench (No. ATE175) is used as a set.

Usage

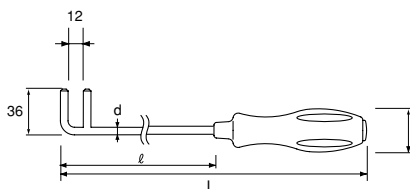
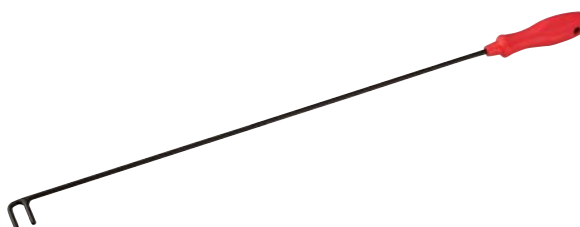
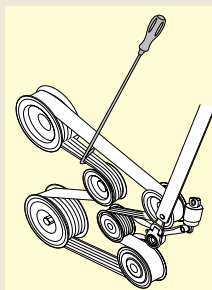
- Acts as a guide when replacing engine belts, and dealing with wiring or piping.

Application

- Mainly used in domestic and imported passenger vehicles where V belts and ribbed belts are common. (Belts with 7 ridges or more)

Characteristics

- Hooks that use rounded shafts make belt replacement easier and do not damage new belts.
- Belts that are normally difficult to replace, such as the wide and long serpentine belt, are quickly replaced.
- Due to its length (660mm), the tool is very effective in vehicles with tight engine compartments such as in the One-box vehicle type.



*Please check the merchandise inventory for a product that is marked by before placing an order.