

# Strut Spring Compressor (AS10) Instruction Manual

Thank you for purchasing KTC Strut Spring Compressor. In order to use the tool safely and correctly, please be sure to read this handling instruction before use. (Please store it with the product.)

This product is a special tool to remove / install coil springs used in automobile suspensions.  
This product should be used only by a qualified person. (Japanese Auto mechanic License Level 3)

## Handling Precaution



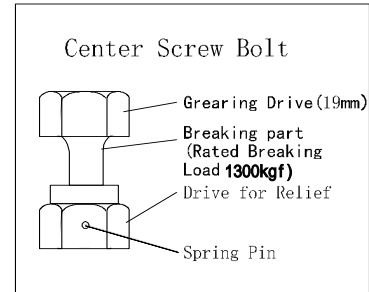
### WARNING

- If excessive load is confirmed during compression, stop working immediately and loosen it.
- Do not use the tool if there is crack or deformation.
- Do not compress until coil springs are completely attached.
- Compressed coil spring is unstable and in a dangerous state.
- Avoid impact on tool such as dropping, throwing, or striking it while moving or working with the tool.
- Allow the coil spring to its free length if it is to be stored for a long time.



### CAUTION

- Do not use an impact wrench, etc. which may cause damage to spring compressor.
- Although it has been designed so that the breaking mechanism in the drive of the center screw bolt section works when excessive load is inflicted on the spring compressor during operation, always be sure to follow the instruction in handling.
- Use only the head drive for the center screw bolt. If the drive for relief is used, the breaking mechanism will not function.
- The rated breaking load of the drive is 1300 kgf. If the drive breaks, immediately loosen by using the drive for relief. Do not re-use the drive for relief.
- Coil spring may come off if it is not installed correctly. If force larger than the rating is inflicted, the spring compressor may be damaged and cause injury.
- Do not use with coil spring with small pitch number until the installation bolts at arms 1 and 2 come in contact.



## Confirmation of Application

Check the subject coil spring before work. Applicable coil springs are only those which meet the following conditions.

- ① It is a genuine coil spring used in domestic passenger cars.  
(W wishbone type which has separate strut and shock is not applicable.)
- ② The number of coils for the coil spring is 2 pitch or more by the effective coil number.
- ③ The coil spring has a shape close to a cylinder.
- ④ Lead angle of the coil spring is 25° or less.
- ⑤ The hook on this spring compressor can be attached securely.

Table of Application

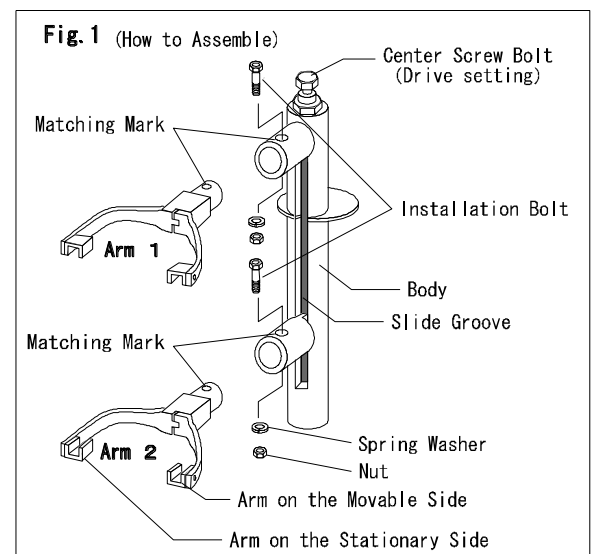
Line Diameter	18mm or less
Outer Diameter	Standard Arm Dia. = 90 ~ 170 mm Large Arm Dia. = 135 ~ 220 mm**
Effective Coil Number	2 pitch or more
Gap	2.0 mm or more

\*\*Large arm is optional.

## How to Assemble (Fig. 1)

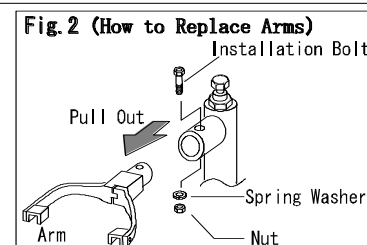
This spring compressor has a structure of extending / compressing the gap between arms 1 and 2 by turning the center screw bolt. Standard arms are included in the set. (Large arm is sold separately. Product No.: AS10-3)

- ① Insert arms 1 and 2 in the main body. Match the matching marks on the arms to insert upper and lower arms.
- ② Fix with the attached installation bolt and nut.  
Insert the installation bolt, attach washer and tighten the nut as shown in the figure on the left. (Standard tightening torque is 130 kgf·cm.)
- ③ Confirm that the installed arms swing smoothly.



## How to Replace Arms (Fig. 2)

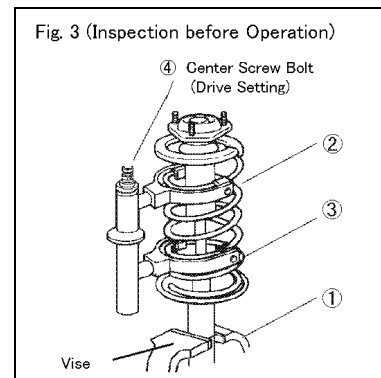
- ① Remove the installation bolt and nut from the arm.
- ② Pull out the arm.
- ③ Prepare an arm for replacement. Install as shown in the procedures ① to ③ of "How to Assemble".



## Inspection Before Operation

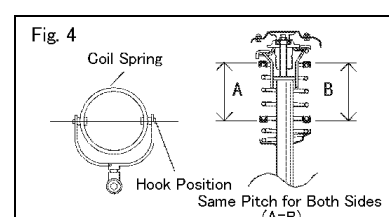
Be sure to inspect before operation the following items and confirm that there is no damage to the product. Do not use the product if you find any damage.

- ① Installation bolts and nuts on arms 1 and 2 are not loosened.
- ② Arms 1 and 2 swings smoothly.
- ③ The center screw bolt rotates smoothly by hand.
- ④ Hook moves lightly.
- ⑤ There is no crack or deformation in any area.

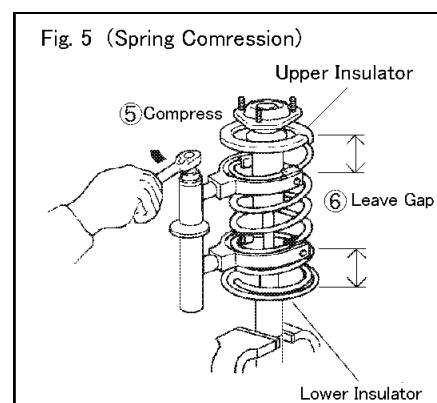


## Procedure

- ① Fix the strut main body on vice. (Fig.3)
- ② Attach the hook on the stationary arm side of spring compressor arm 1 to the top of coil spring. Next, attach the hook on the movable arm side.
- ③ Attach the hook on the stationary side of arm 2 to the bottom of coil spring while turning the center screw bolt by hand, and attach the hook on the movable side.  
 (Note 1) Hook should be attached to the diameter section of the coil spring (Fig.4)  
 (Note 2) The pitch of arms 1 and 2, hanging on the hooks, should be the same quantity. (Fig.4)  
 (Note 3) Confirm that spring compressor is close to parallel to the strut main body. (It may vary somewhat by the lead angle.)  
 (Note 4) Turn the center screw bolt in clockwise direction by hand, and give an initial compressing force of the spring between arms of spring compressor to confirm that hooks are hanging on the spring.



- ④ Attach a socket wrench or box end wrench on the center screw bolt (width across flat 19 mm) and tighten in clockwise direction to perform compression. (Fig.5)  
 (Note 5) Do not use impact wrench, etc. because it may cause damage.
- ⑤ Tighten until the compressed coil spring is free (coming off from upper insulator or lower insulator). (Fig.5)  
 (Note 6) If the uncompressed spring on ends become stretched so that the spring does not come free, or if coil springs arches during compression, try again from the initial setting.  
 (Note 7) Coil springs with small pitch numbers should be adopted so that installation bolts on arms 1 and 2 do not come in contact.
- ⑥ Confirm that the coil spring is free and continue with disassembling the strut main body.



## Others

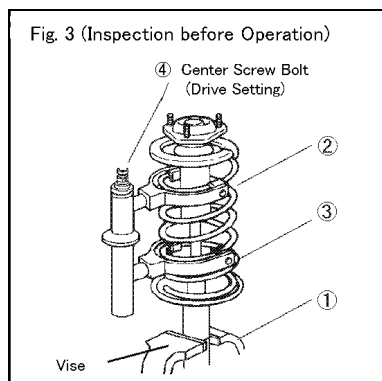
The following parts are sold as supplemental parts.

Product Name	No.	Applicable Spring	Note
Spring Compressor Main Body	AS10-1	—	Standard inclusion in AS10
Standard Arm	AS10-2	Outer Diameter 90-170 mm	Standard inclusion in AS10
Large Arm	AS10-3	Outer Diameter 135- 220 mm	Optional

## Request from the Manufacturer

- Maintain the screw section of center screw bolt well, and apply lubricant before use. (Neglecting to do so will cause the screw section to wear, and may lead to product damage.)  
 Note: Center screw bolt cannot be replaced because of the product structure even if it is damaged.
- When storing, keep foreign objects, dust, etc. from entering the slide groove on the main body.
- Do not disassemble or modify the product.

## Inspection Before Operation

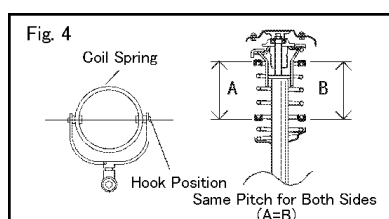


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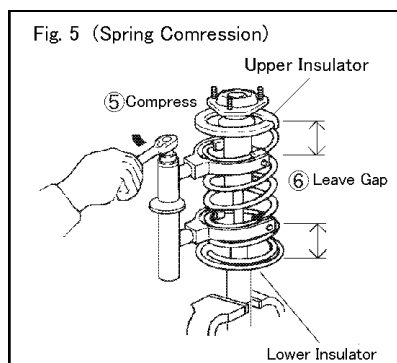
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