

Instruction Manual

# MACPHERSON STRUT SPRING COMPRESSOR SK-3500



<b>KOREA</b>	PATENT NO. 077932
<b>USA</b>	PATENT NO. 5172462
<b>GERMANY</b>	PATENT NO. 4231885

We appreciate your purchase of the Macpherson Strut Spring Compressor made by JackTech Korea. This instruction manual is provided to assist the user to better adjust the machine and to indicate the cautions for operation. Please read it carefully so that you fully understand the machine before operating it.

## 1. Characteristics of the product.

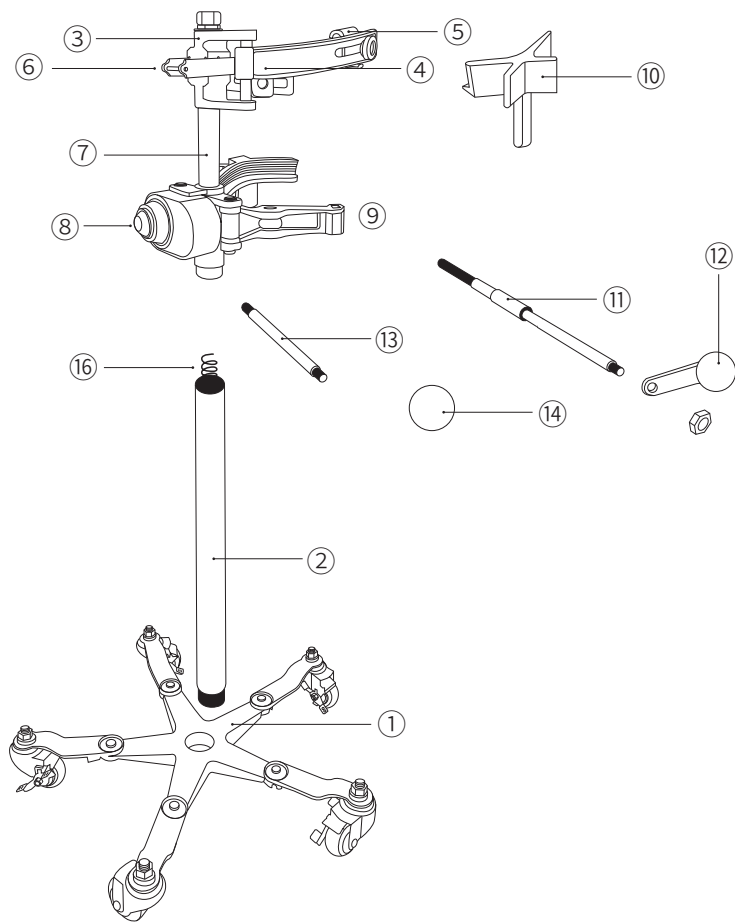
- The components of this product have been specially selected to ensure a lifetime of trouble-free operation.
- SK-3500 is equipped with a 14" holding vice and is 20.5" high which can be adjusted to fit and compress any types of strut in both upright or upside down positions.
- A one-man operation system that takes less than 10 seconds to compress a spring. The time taken to complete repairs is greatly reduced, there by maximizing profits for your business.
- Universal adjustable holding arms prevent the spring from popping out.
- Even a novice will quickly learn the simple procedures. It has been designed for assembly and mobility.

## 2. Pre-assembly check list

- Prior to assembly, lay out all the components and check them off against the accompanying checklist. If any parts are missing, please contact the nearest local distributor and mention the missing components part number.

### ※ Note

This unit is packed in sub-assemblies. Do not disassemble further than the sub-assemblies. If you require a spare part, consult the parts list below.



► Assembly parts and numbers

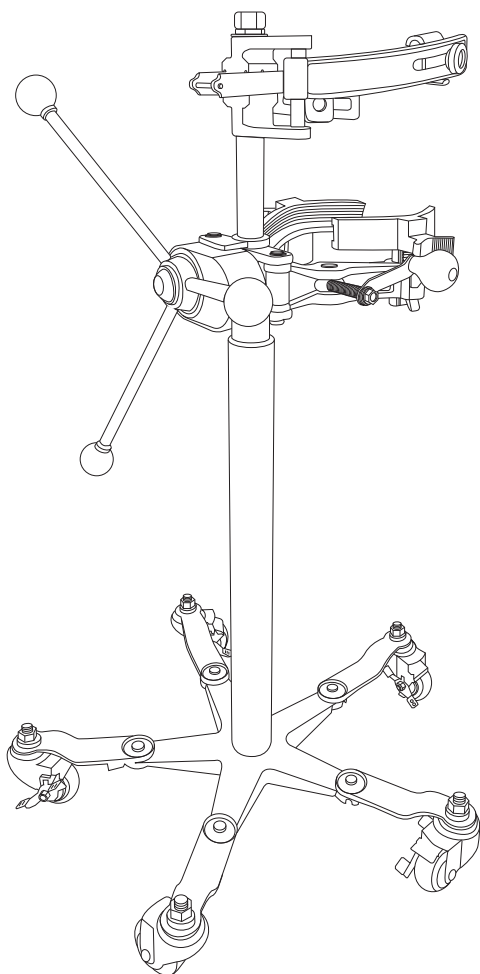
Part no.	Name	Q'ty
1	Base	1
2	Support Tie	1
3	Upper Arm Head	1
4	Upper Arm	2
5	Upper Arm Hook	2
6	Middle Hook	1
7	Rack Gear	1
8	Gear House	1
9	Lower Arm	2
10	Spring Fixing Clamp	2
11	Clamp Adjust Bolt	1
12	Clamp Adjust Handle	1
13	Handle Lever	3
14	Handle Lever Ball	3
15	Body	1
16	Return Spring	1

### 3. Caution on use

- Ensure that the threads of the separate components are clean and free of burrs.
- All threads must be firmly tightened to prevent accidental failure of the individual components.
- Make sure to compress the spring after checking that the upper and lower arms ④, ⑨ and hooks ⑤, ⑥ are on the spring.
- Be sure to occasionally apply grease to the rack gear ⑦.

### 4. How to assemble

- Firmly attach combine the female screw in the center of base ① and the male screw of support tie ②.
- Set the return spring ⑬ in the support tie ② and firmly attach the female screw in the upper portion of support tie ② and the male screw of body ⑮.
- Attach the clamp adjust handle ⑫ on the side of the clamp adjust bolt ⑪ and then insert spring fixing clamp ⑩ at both sides.
- Combine the three handle levers ⑬ to the part of three female screws which is formed at the outside perimeter of gear house ⑧.



▶ Assembly drawing

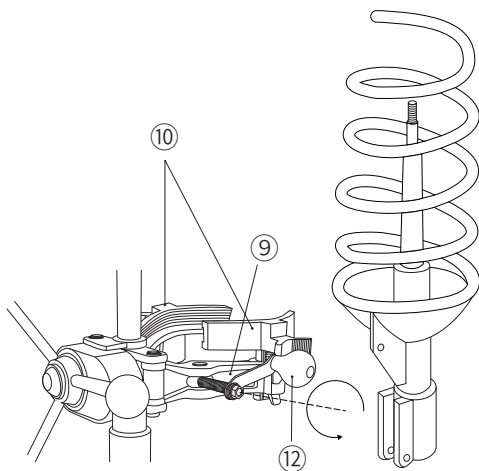
#### ※ Caution on assembling

- A. This product is assembled using screws. When working, please firmly tighten the components.
- B. You may not necessarily follow the assembly procedure in this manual. However, we recommend that you follow it because it shows the easiest way.
- C. Do not disassemble the gear house arbitrarily. Disassembling the gear house is a major cause of malfunction. The manufacturer does not take responsibility for the accidents that result from arbitrary operation.

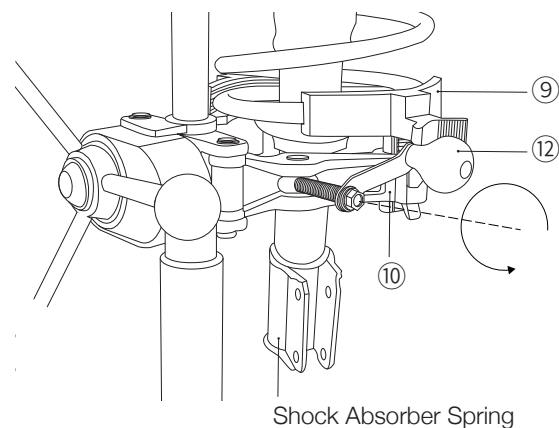
## 5. Usage instructions by procedure *(continued)*

- Fixing the lower part of the spring.

- A. When compressing the shock absorber spring with a wing at the bottom of the shaft, put the plate at the bottom of the shock absorber on the spring fixing clamp ⑩ of this compressor, with the long wing of the spring fixing clamp ⑩ over the lower arm ⑨ facing inward (Figure 1).
- B. As shown in (Figure 2), put the plate of the shock absorber on the spring fixing clamp ⑩ fixed to the lower arm ⑨ (if the gap is too large, turn the lower arm adjustment handle ⑫ left or right to keep the proper space.), and turn the lower arm adjustment handle ⑫ until the spring is fully seated and secured.

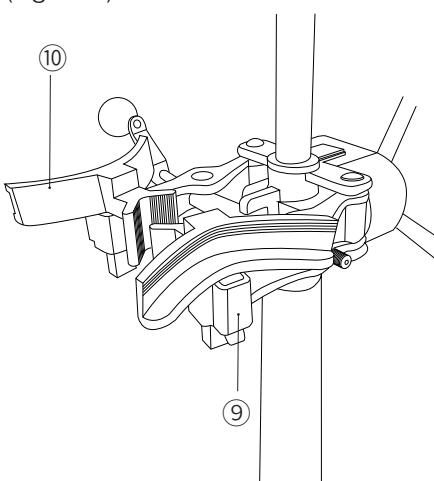


► Figure 1

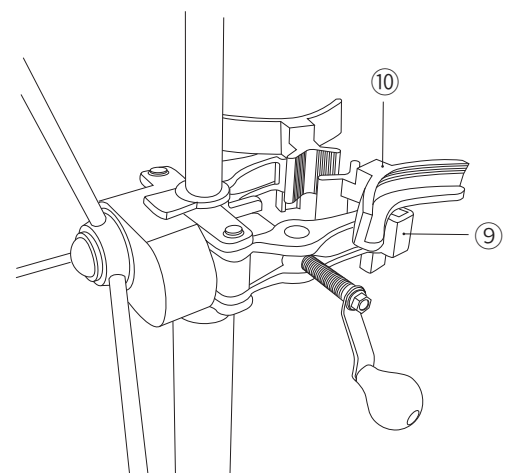
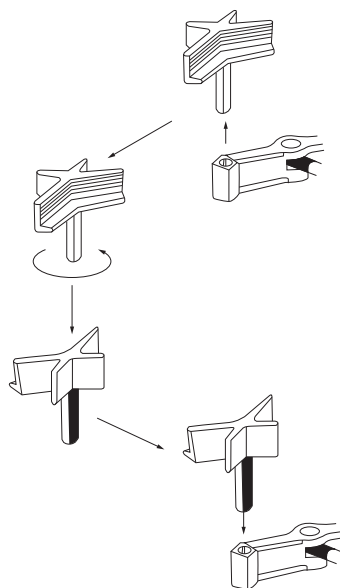


► Figure 2

- C. If the shock absorber does not have a wing (which is common), as in (Figure 3), remove the clamp ⑩ from the lower arm ⑨ and turn it 180 degrees to fix it again with the short wings of the clamp ⑩ facing inward (Figure 4).

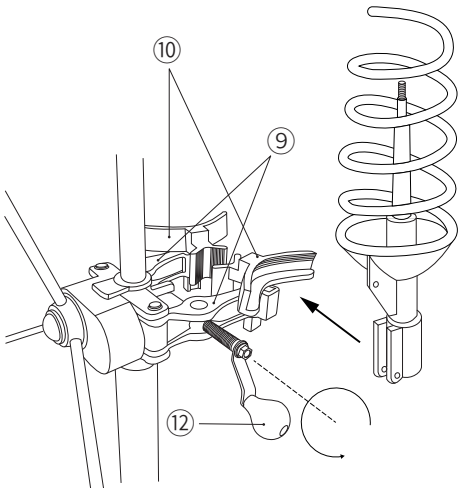


► Figure 3

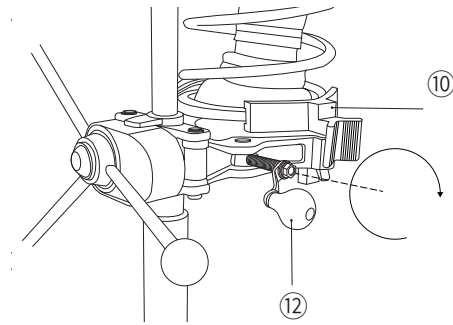


► Figure 4

D. Change the clamp ⑩ as in (Figure 5 and 6), after putting the shock absorber on the clamp ⑩ of the arms ⑨, and fix it as in the method of (B).

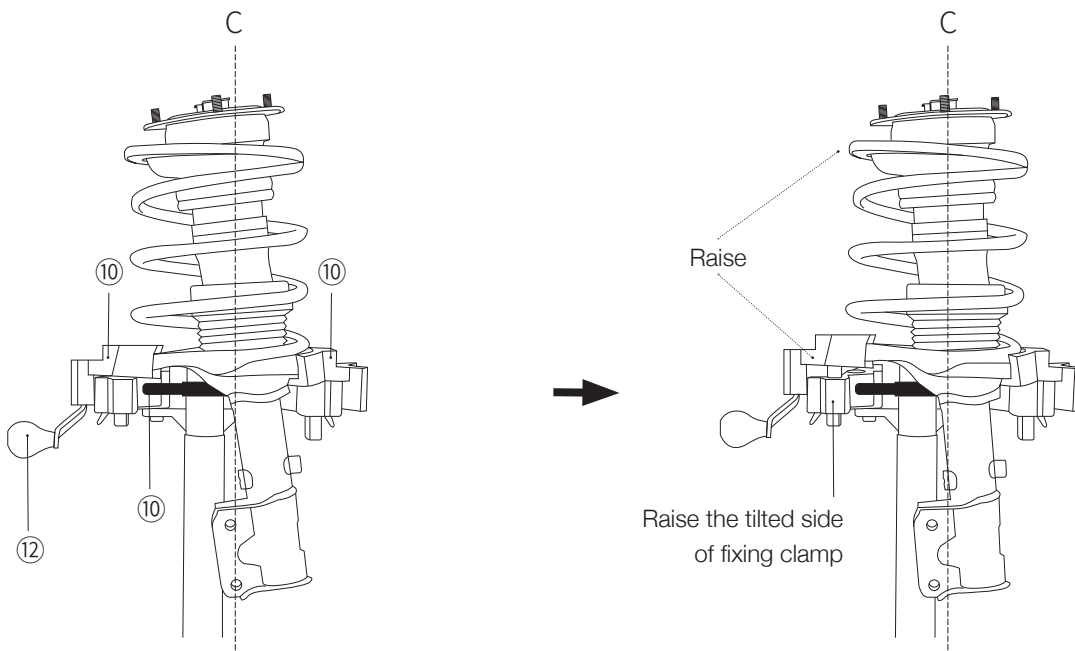


► Figure 5



► Figure 6

E. In many cases, the bottom dish part of the strut spring is not flat. That can cause the spring to be off center. Raise the tilted side of fixing clamp ⑩ to make the spring straight, and in the center (Figure 7).



► Figure 7

(continued on page 05)

## 5. Usage instructions by procedure

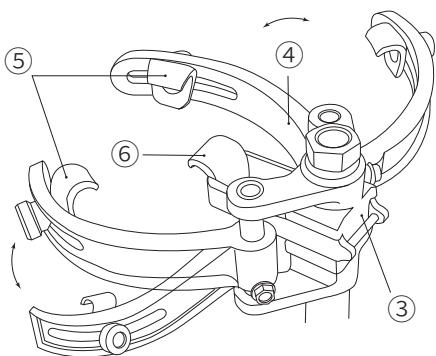
- Fixing the upper part of the spring.

A. This compressor is manufactured so that the upper arm ④ can be freely turned in order to perfectly fix and slide the upper arm hook ⑤ to the left and right and the middle hook ⑥ slide in and out. Adjust the arm ④ and hooks ⑤, ⑥ according to the size of the spring (Figure 8).

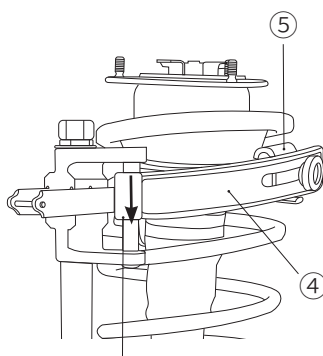
B. As in (Figure 9), turn the clamp ④ according to the size of the spring and put it in the proper location for the spring, setting the portion with the hinge of the hook ⑤ in the upper direction. Put the hook ⑤ in the proper location in order to balance the spring. Make sure both of the arms ④ are fully locked and engaged in the spring so both clamps can start compressing at the same time and compress evenly.

- The compressing the spring.

According to the above procedure, as in (Figure 10), the spring will be compressed when the rack gear ⑦ is vertically lowered if the handle lever ⑬ is turned to the right.

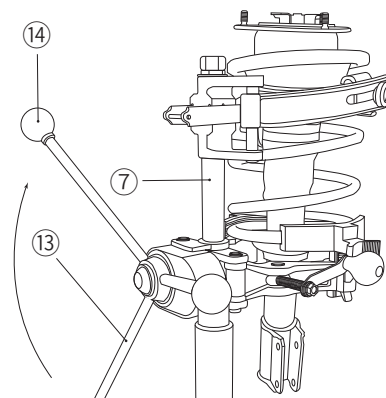


► Figure 8



Push down the upper arms to grab the spring firmly.

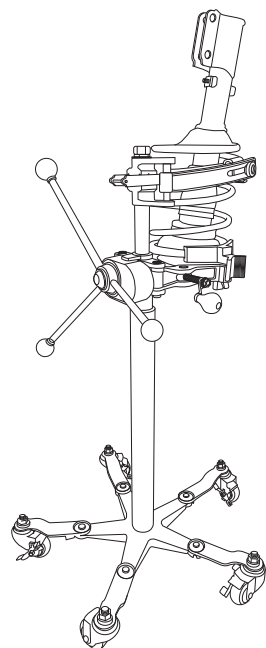
► Figure 9



► Figure 10

## 6. Upside down position

- Figure 11 is shown here to explain a more convenient way to work with the spring compressor by putting it in an upside down position. As shown in the figure, when the shock absorber is positioned upside down and compressed, the main frame can be removed from the top and the mount can be removed from the bottom. In this way, you can finish all the work with one compression of the spring.



► Figure 11

※ **Caution on the the work of compressing**

In the case of improper compressing work, it is possible to note the phenomena like in (Figure 12 and 13).

**A. Spring tilts left or right.**

1) Cause

Greater force being applied on one side which displays the most tilt (Figure 12).

2) Solution

Carefully release the spring. First, raise both of the clamps until both clamps are locked in their most up position. Then, start slowly compressing the jack until at least one of the clamps make contact with the spring. When one of the clamps touches the spring, stop compressing and push down on the other side of the clamp so that both sides are fully engaged in the spring. If problem persists due to the extreme imbalance of the spring, you may also offset the tilt by making adjustments to the clamps, such as setting one of the clamps in an upward position and the opposite clamp in the lower position. In doing so, the tilt will correct itself because the clamps are compressing in the opposite angle countering the tilt.

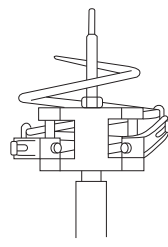
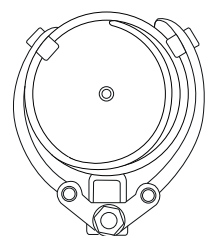
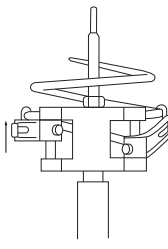
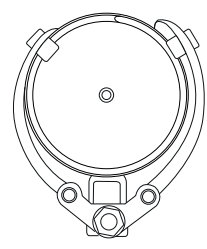
**B. Spring tilts forward or rearward**

1) Cause

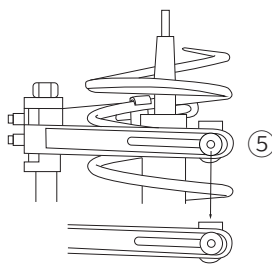
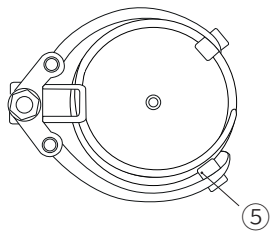
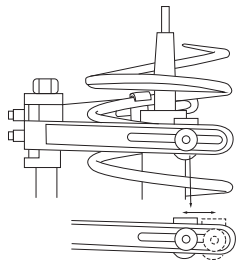
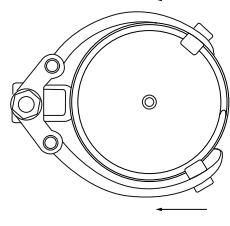
Upper arm hooks ⑤ are not positioned in the spring's centerline when viewed from the above (Figure 13).

2) Solution

Carefully release the spring and reposition the upper arm hooks in the spring's centerline.

Status	From Rear	From Upper
BAD		*Spring tilts the side. 
GOOD		

▶ Figure 12

Status	From Rear	From Upper
BAD		*Spring tilts forward or rearward. 
GOOD		

▶ Figure 13



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