

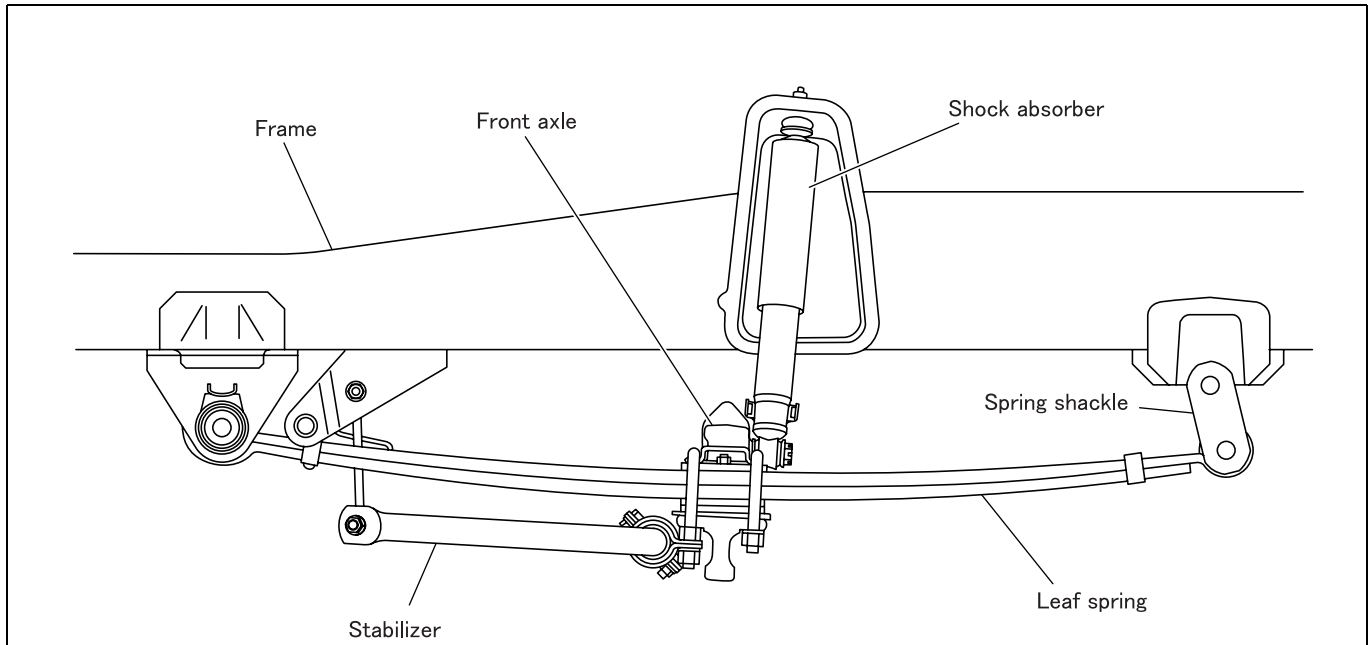
---

# GROUP 33 INDEX

<b>STRUCTURE AND OPERATION</b>	
<b>1. Front Suspension Elements.....</b>	<b>33-2</b>
<b>TROUBLESHOOTING .....</b>	<b>33-3</b>
<b>STABILIZER .....</b>	<b>33-4</b>
<b>SHOCK ABSORBER.....</b>	<b>33-6</b>
<b>LEAF SPRING .....</b>	<b>33-8</b>

# STRUCTURE AND OPERATION

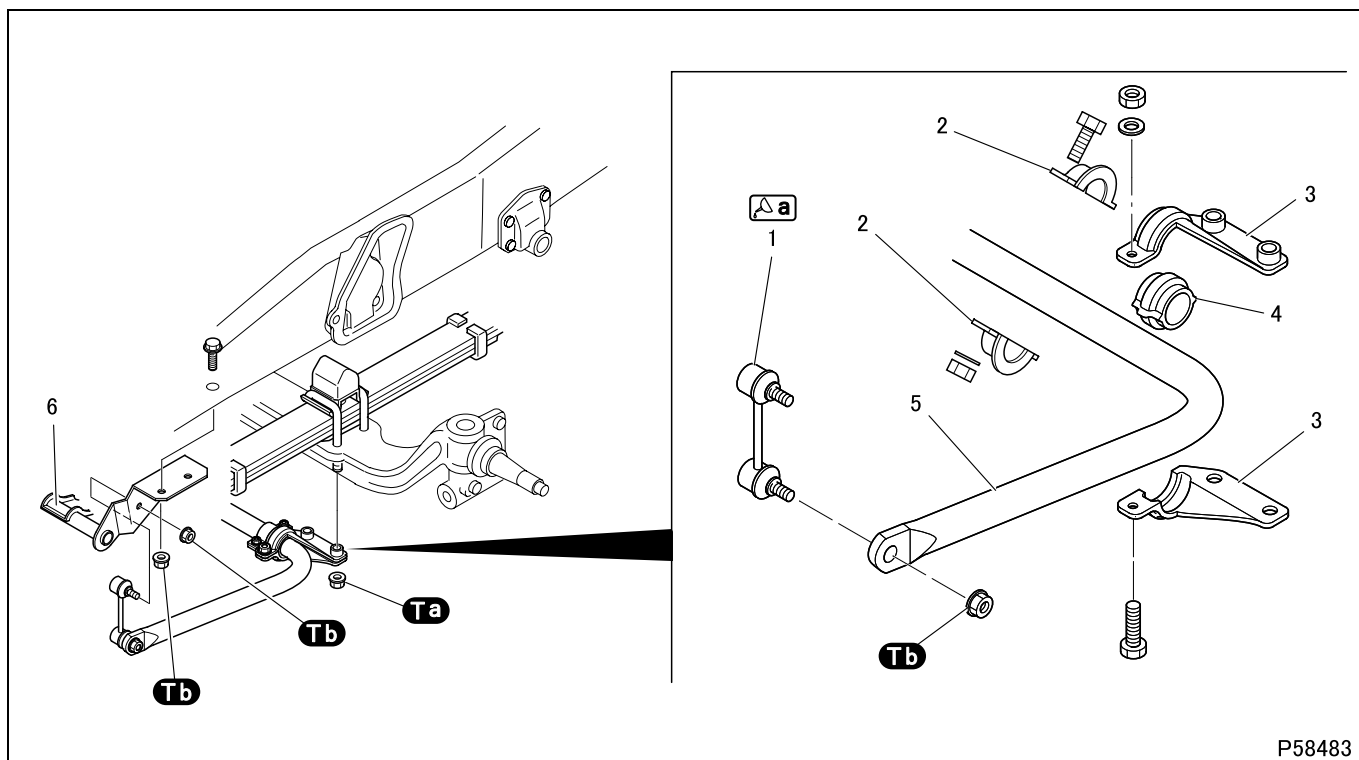
## 1. Front Suspension Elements



- The front suspensions shown above both use a spring shackle connected to the rear end of the leaf spring (shackle-link type suspension).
- The stabilizer prevents the vehicle from pitching, keeping it parallel with the ground.

Symptoms		Feels as if floating	Tends to be noisy	Road bumps/pits received as shocks	Heavy rolling	Cyclical shocks from underneath	Vehicle tilted	Poor linearity	Reference Gr
Possible causes									
Deformed stabilizer bar or link					O				
Shock absorber	Substantial loss of oil and damping capacity	O							
	Rubber bushing worn		O						
	Loose fitting		O						
Leaf spring	Cracks or other damage			O			O		
	Broken		O				O		
	Loose U-bolt		O				O		
	Spring bushing worn		O				O		
Tire	Uneven wear				O			O	Gr31
	Tire and wheel needs balancing					O		O	
	Excessive tire pressure			O					
Wheels out of alignment								O	Gr26

# STABILIZER



## ● Removal sequence

- |                       |                          |
|-----------------------|--------------------------|
| 1 Stabilizer link     | 4 Stabilizer bushing     |
| 2 Stabilizer retainer | 5 Stabilizer bar         |
| 3 Stabilizer clamp    | 6 Stabilizer bar bracket |

## ● Installation sequence

Follow the removal sequence in reverse.

## Service standards: mm {in}

Location	Maintenance item	Standard value	Limit	Remedy	
1	Stabilizer link	Starting torque	0.68 to 1.96 N·m {0.5 to 1.4 lbf·ft}	–	Replace
		Play	0.2 {0.0079} or less	–	

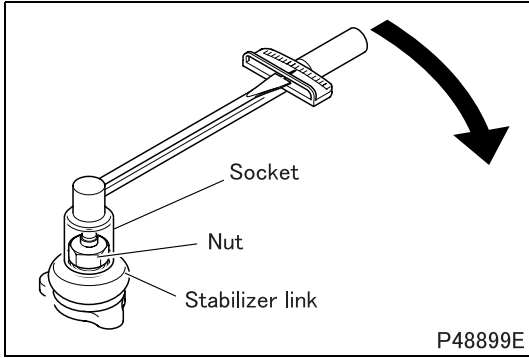
## Torque: N·m {lbf·ft}

Mark	Fastener	Torque value	Remarks
<b>Ta</b>	Nut (U-bolt mounting)	162 ± 15 {120 ± 11}	–
<b>Tb</b>	Nut (stabilizer mounting)	90 to 120 {66 to 89}	–
	Nut (stabilizer link mounting)		
	Nut (stabilizer bar bracket mounting)		

## Lubricant and/or sealant

Mark	Points of application	Specified lubricant and/or sealant	Quantity
<b>a</b>	Dust cover lips on stabilizer link	Mitsubishi wheel bearing grease [NLGI No. 2 (Li soap)]	As required

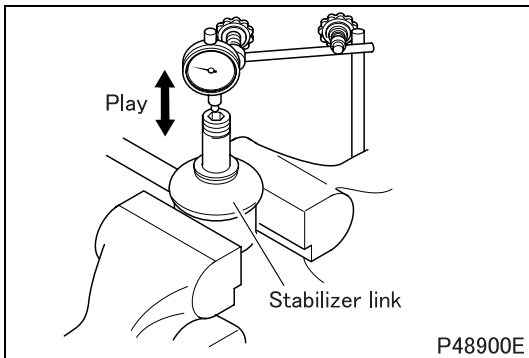
## ◆ Inspection procedure ◆



### ■ Inspection: Stabilizer link

#### (1) Starting torque

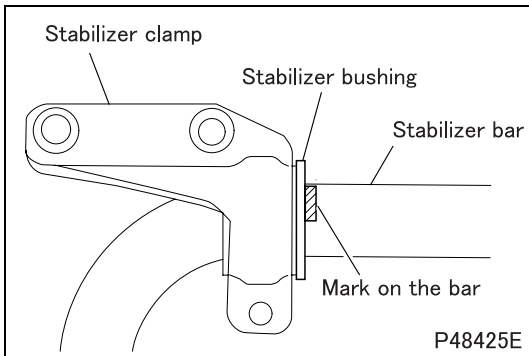
- Install a nut onto the stabilizer link.
- Install a socket and a torque wrench onto the nut. Measure the starting torque of the stabilizer link.
- If the measured value does not conform to the standard value, replace the stabilizer link.



#### (2) Play

- If the measured value does not conform to the standard value, replace the stabilizer link.

## ◆ Installation procedure ◆



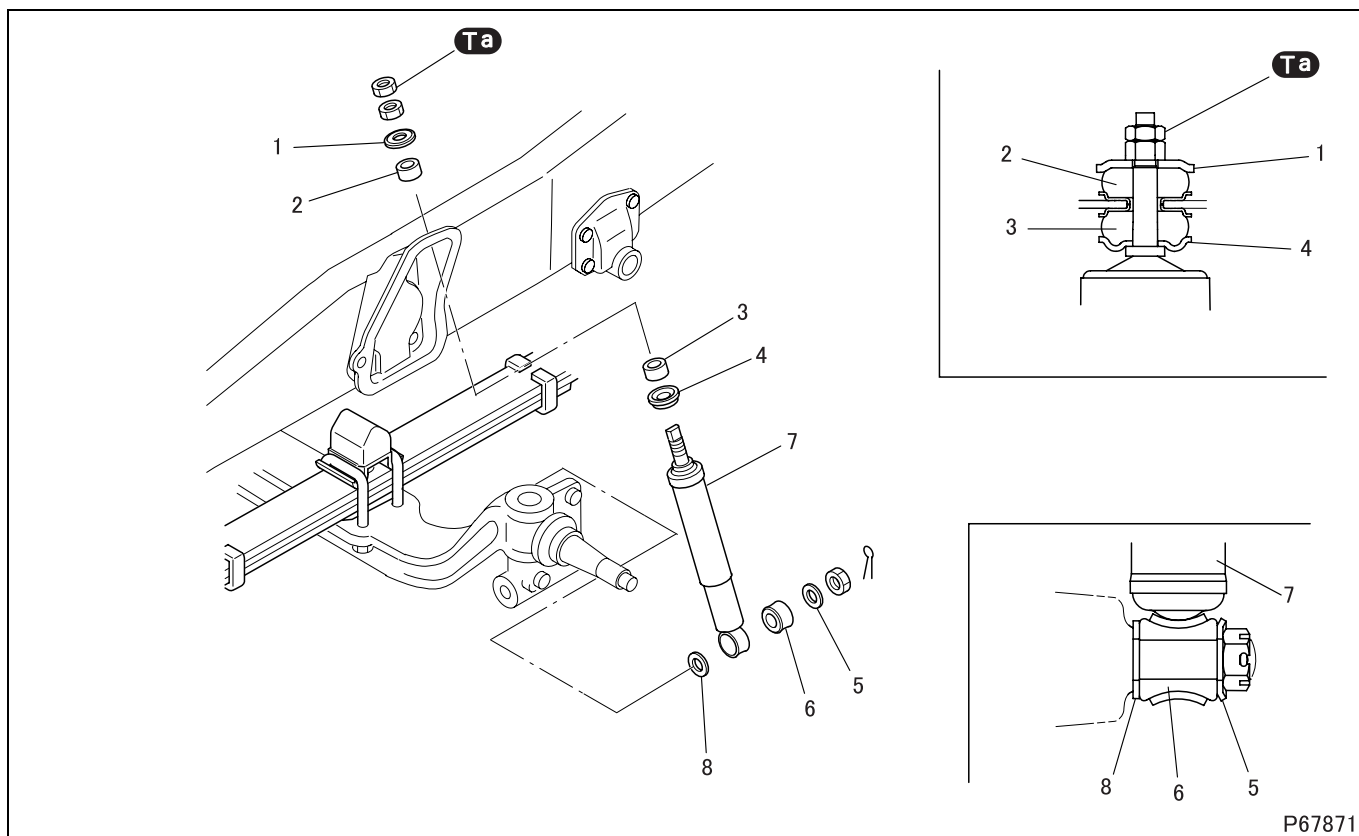
#### (3) Dust cover

- Check the dust cover for wear, crack, and damage.

### ■ Installation: Stabilizer clamp and bushing

- Position the stabilizer bushing onto the stabilizer bar such that the end of the bushing aligns with the mark on the bar. Clamp them in place with the stabilizer clamp.

# SHOCK ABSORBER



P67871

## ● Removal sequence

- |                  |                  |
|------------------|------------------|
| 1 Washer         | 5 Washer         |
| 2 Rubber bushing | 6 Rubber bushing |
| 3 Rubber bushing | 7 Shock absorber |
| 4 Washer         | 8 Washer         |

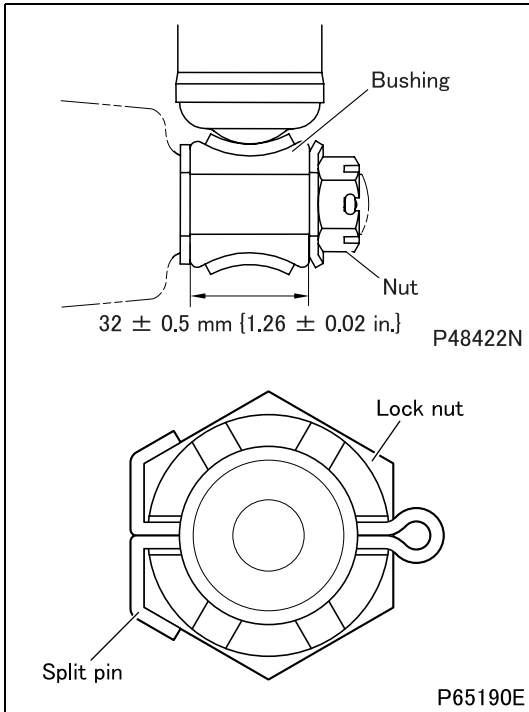
## ● Installation sequence

Follow the removal sequence in reverse.

## Torque: N·m {lbf·ft}

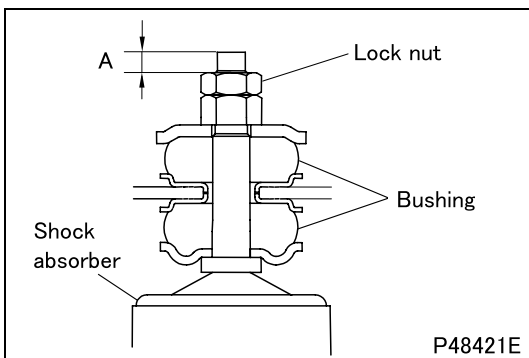
Mark	Fastener	Torque value	Remarks
<b>Ta</b>	Nut (rubber bushing mounting)	13 to 17 {9.6 to 13}	–

## ◆ Installation procedure ◆



### ■ Installation: Rubber bushing

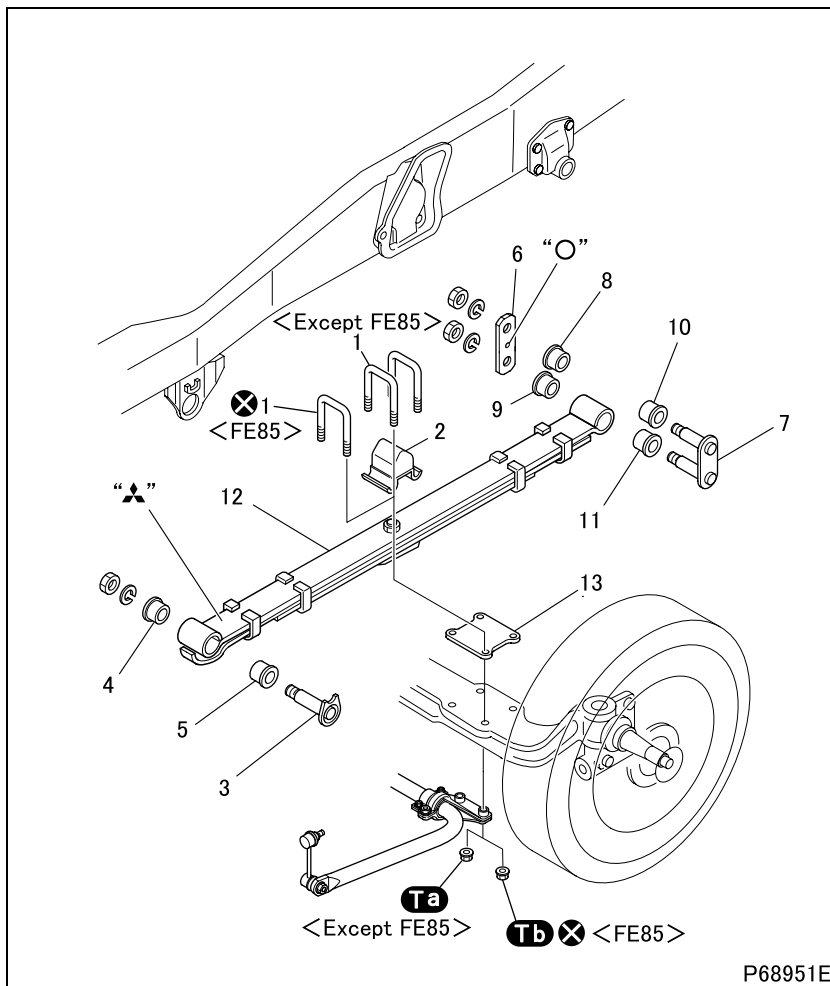
- Tighten the nut until the rubber bushing is squeezed to the illustrated dimension.
- Install the split pin as shown in the illustration.



### ■ Installation: Rubber bushing

- Tighten the nuts until dimension A in the illustration becomes equal to the following value.  
**A:** 4.7 mm {0.19 in}

# LEAF SPRING



## ● Removal sequence

- 1 U-bolt
- 2 Front axle bumper
- 3 Spring pin
- 4 Rubber bushing
- 5 Rubber bushing
- 6 Shackle plate
- 7 Spring shackle
- 8 Rubber bushing
- 9 Rubber bushing
- 10 Rubber bushing
- 11 Rubber bushing
- 12 Leaf spring (See later section.)
- 13 Spacer

⊗ ⊗: Non-reusable parts

## ● Installation sequence

Follow the removal sequence in reverse.

## CAUTION

- U-bolt and mounting nut are non-reusable. <COE 50>
- Make sure to jack the vehicle up when tightening the U-bolt mounting nut to specified torque.
- Make sure to tighten the U-bolt mounting nut in dry tightening. If putting any oil or solvent on the nut, never use it.

## NOTE

- The right-hand and left-hand leaf spring assemblies have different cambers from each other. Ensure that both assemblies are installed correctly. Reversed installation results in a slanted vehicle.

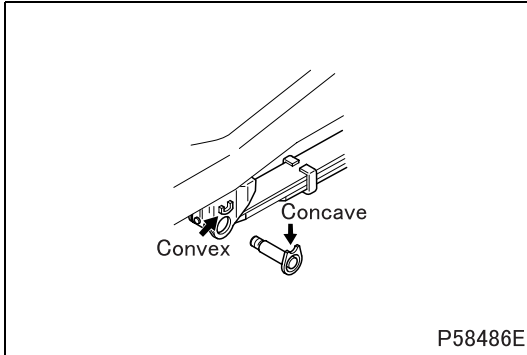
## Service standards: mm {in}

Location	Maintenance item	Standard value	Limit	Remedy
3 to 5	Clearance between spring pin and rubber bushings	0 to 0.03 {0.0012}	–	Replace
7 to 11	Clearance between spring shackle and rubber bushings	0 to 0.03 {0.0012}	–	Replace

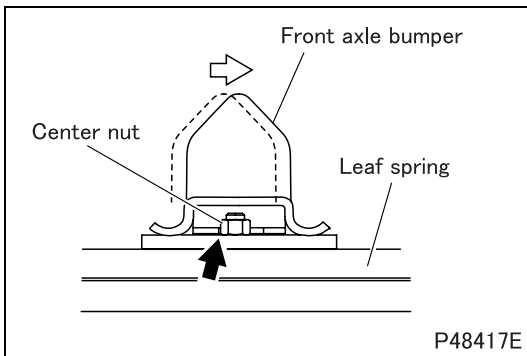
## Torque: N·m {lbf·ft}

Mark	Fastener	Torque value	Remarks
<b>Ta</b>	Nut (U-bolt mounting)	162 ± 15 {119 ± 11}	Nut color: Yellow
<b>Tb</b>	Nut (U-bolt mounting)	175 ± 5 {129 ± 3.7}	Nut color: Green



**◆ Installation procedure ◆****■ Installation: Spring pin**

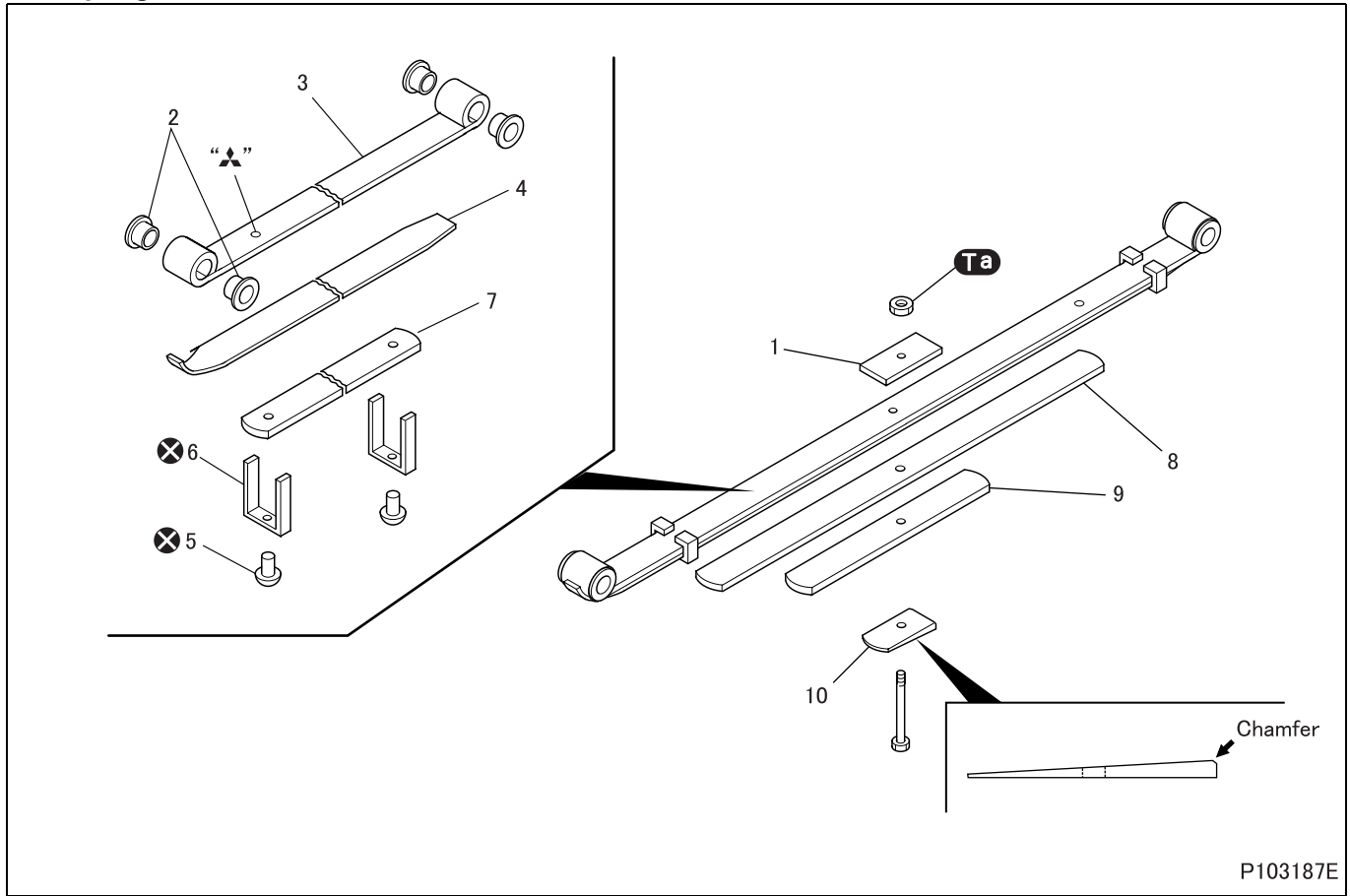
- Install the spring pin such that the concave on the pin engages with the convex on the frame.

**■ Installation: Front axle bumper**

- With the unloaded vehicle, slide the front axle bumper on the leaf spring to the rear of the vehicle until it is against the center nut of the leaf spring. Then, install the bumper using U-bolts.

# LEAF SPRING

## Leaf Spring



- The above schematic is only an example. Details may differ depending on vehicle models, such as the number of spring leaves, spacers, and the parts used.

### ● Disassembly sequence

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1 Sheet (8 mm {0.31 in} thick)  | 8 Leaf spring (No. 3)           |
| 2 Sheet (10 mm {0.39 in} thick) | 9 Leaf spring (No. 4)           |
| 3 Collar                        | 10 Leaf spring (No. 5)          |
| 4 Leaf spring (No. 1)           | 11 Sheet (8 mm {0.31 in} thick) |
| 5 Leaf spring (No. 2)           | 12 Caster shim                  |
| 6 Rivet                         |                                 |
| 7 Clip                          | ⊗: Non-reusable parts           |

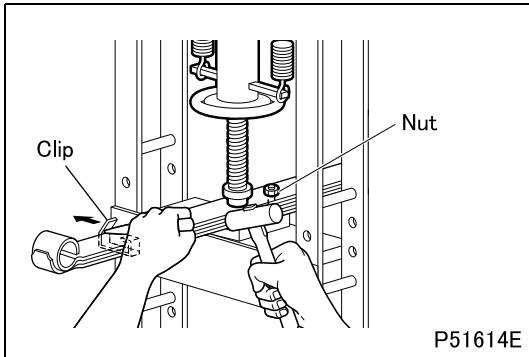
### ● Assembly sequence

Follow the disassembly sequence in reverse.

### Torque: N·m {lbf·ft}

Mark	Fastener	Torque value	Remarks
<b>Ta</b>	Nut (assembly of leaf spring)	34 to 54 {25 to 40}	–

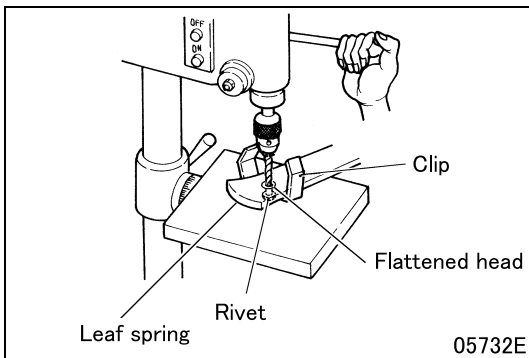
### ◆ Work before removal ◆



#### ■ Compression: Leaf spring

- Using a press, compress the leaf spring as illustrated for subsequent operations.
- Using a chisel or the like, open the bent ends of the clip.

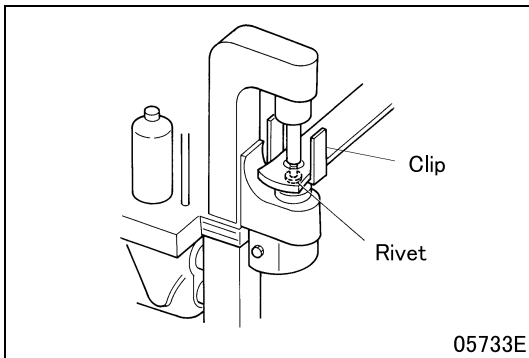
### ◆ Removal procedure ◆



#### ■ Removal: Clip

- Using a drill press, break the flattened head of the rivet and remove the clip from the leaf spring (No. 3).

### ◆ Installation procedure ◆



#### ■ Installation: Clip

- Using a riveting machine, rivet a clip onto the leaf spring.