

SUSPENSION (REAR, MODEL: SH)

SU02-003

LEAF SUSPENSION ASSEMBLY SU02-2

- DATA AND SPECIFICATIONS..... SU02-2
- DESCRIPTION SU02-3
- TROUBLESHOOTING..... SU02-4
- SPECIAL TOOL..... SU02-4
- COMPONENT LOCATOR SU02-5
- OVERHAUL SU02-7
- INSPECTION AND REPAIR SU02-11

LEAF SUSPENSION ASSEMBLY

DATA AND SPECIFICATIONS

EN09A0502I200001

Unit: mm {in.}

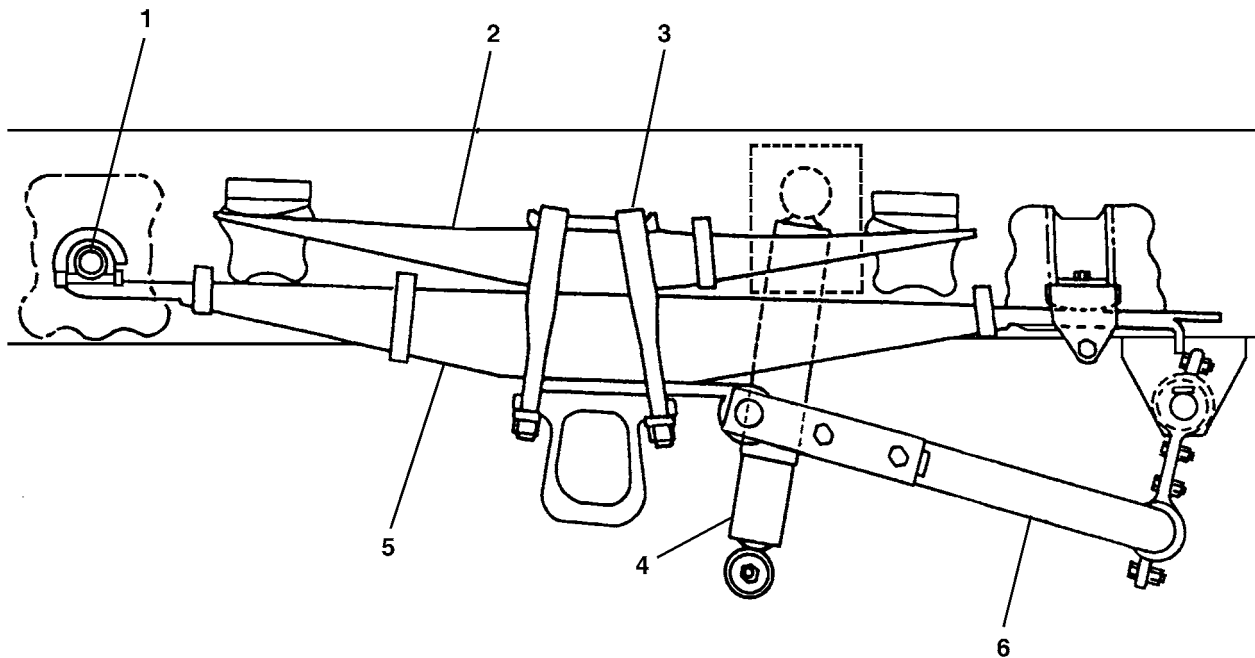
Type		Semi-elliptic main and auxiliary leaf springs with shock absorber (if so equipped) and stabilizer (if so equipped)	
Dimensions of leaf spring	Span	1,430 {56.30}	
	Width	90 {3.54}	
	Thickness of leaves	Multi leaf spring	Taper leaf spring
		10.0 {0.39}	18.0 {0.71}
		12.0 {0.47}	19.0 {0.75}
Dimensions of auxiliary leaf springs	Span	980 {38.58}	
	Width	90 {3.54}	
	Thickness of leaves	10.0 {0.39}	15.0 {0.59}
Shock absorbers	Type	*Single acting	*Double acting
	Stroke	280 {11.02}	270 {10.63}
	Min. length	458 {18.03}	460 {18.11}
	Max. length	738 {29.06}	730 {28.74}
Stabilizer		Option	

*: If so equipped

DESCRIPTION

EN09A0502C100001

(REPRESENTATIVE MODEL)



SHTS09A050200001

1	Spring pin	4	Shock absorber (If so equipped)
2	Auxiliary leaf spring assembly	5	Main leaf spring assembly
3	U-bolt	6	Stabilizer (If so equipped)

TROUBLESHOOTING

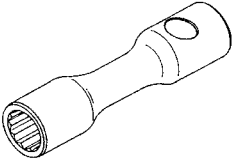
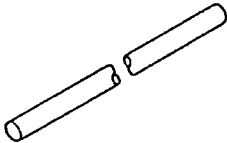
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Symptom	Possible cause	Remedy/Prevention
Rough ride	Broken leaves	Replace the leaves. Check the load capacity rating.
	Cracked or damaged	Replace the leaves. Check the load capacity rating.
	Overloading	Decrease the load.
Heavy sway	Inoperative shock absorber	Replace the shock absorber.
Leaves broken at the center bolt hole	Loosen U-bolts	Tighten to specified torque.
Squeaking of the leaves	Friction between the leaves	Replace the silencers and/or apply chassis grease between leaves.

SPECIAL TOOL

EN09A0502K100001

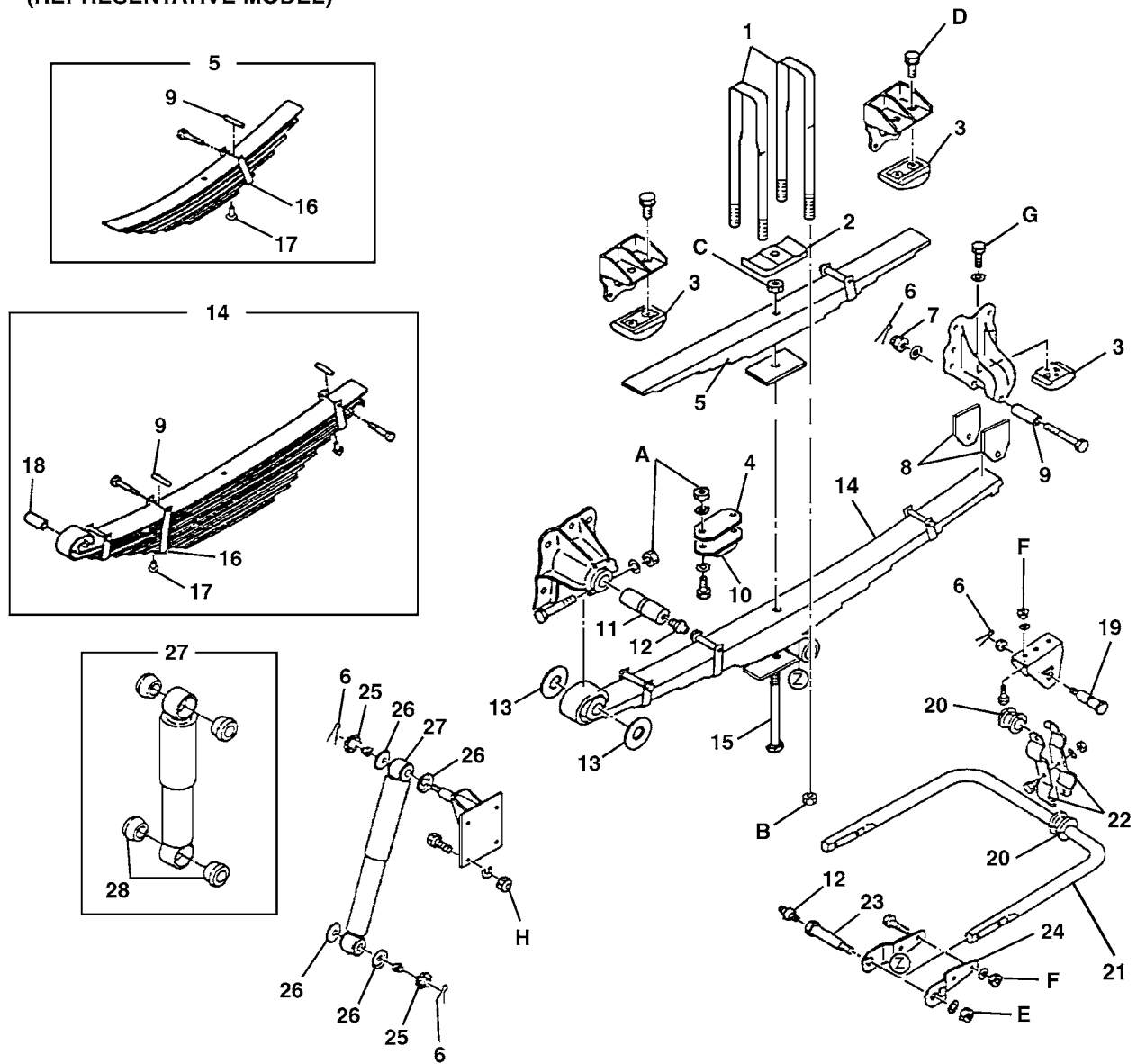
Prior to starting a suspension overhaul, it is necessary to have these special tools.

Illustration	Part number	Tool name	Remarks
	09839-3202 09839-3203	SOCKET WRENCH	FOR REAR U-BOLT
	09841-2560	BAR	FOR REAR U-BOLT

COMPONENT LOCATOR

EN09A0502D100001

(REPRESENTATIVE MODEL)



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1	U-bolt	11	Spring pin	21	Stabilizer (If so equipped)
2	Spring pad	12	Lubrication fitting	22	Holder (If so equipped)
3	Slide seat	13	Thrust washer	23	Stabilizer link pin (If so equipped)
4	Spacer	14	Main leaf spring assembly	24	Stabilizer lever (If so equipped)
5	Auxiliary leaf spring assembly	15	Center bolt	25	Slotted cap (If so equipped)
6	Cotter pin	16	Clip	26	Cushion washer (If so equipped)
7	Slotted nut	17	Rivet	27	Shock absorber (If so equipped)
8	Wear plate	18	Bushing	28	Cushion (If so equipped)
9	Collar	19	Holder pin (If so equipped)		
10	Spring bumper	20	Rubber bushing (If so equipped)		

Tightening torque

Unit: N·m {kgf·cm, lbf·ft}

A	73-109 {745-1,111, 54-80}	E	341-459 {3,478-4,680, 252-338}
B	641-739 {6,537-7,535, 473-544}	F	166-224 {1,693-2,284, 123-165}
C	226-284 {2,305-2,895, 167-209}	G	106-144 {1,081-1,468, 79-106}
D	64-86 {653-876, 48-63}	H	106-144 {1,081-1,468, 79-106}

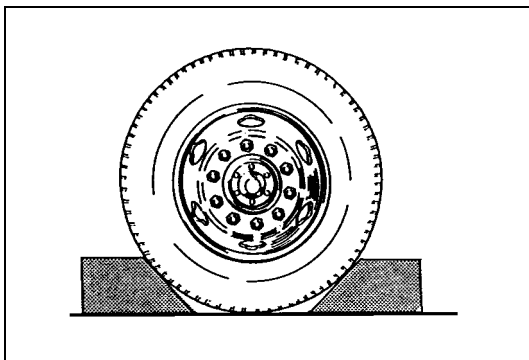
OVERHAUL

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IMPORTANT POINTS - DISMOUNTING

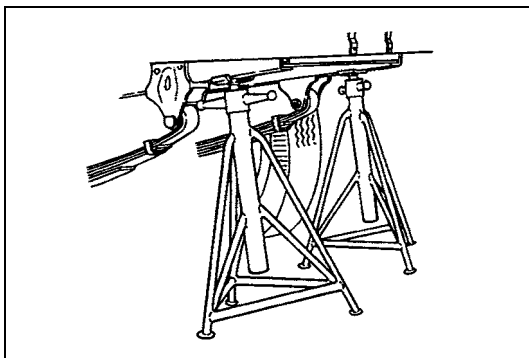
1. SUPPORT OF THE FRAME WITH STANDS

- (1) Park the vehicle on level ground.
- (2) Be sure to block the wheels before dismounting.



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- (3) Jack up the axle, and support the frame with stands.
- (4) Remove the tires.



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2. REMOVAL OF THE U-BOLT

- (1) Remove the stabilizer.
- (2) Support the axle with a floor jack.
- (3) Remove the U-bolt mounting nuts.

NOTICE

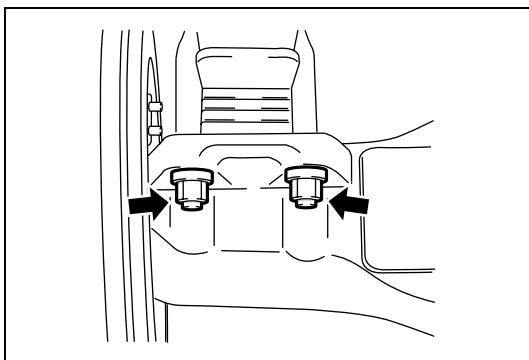
When cutting off the U-bolts (Due to rusted threads) with a torch, never direct the flame toward the leaves or allow sparks to come in contact with the leaves.

SST:

Socket Wrench for Rear U-bolt (09839-3202)

Socket Wrench for Rear U-bolt (09839-3203)

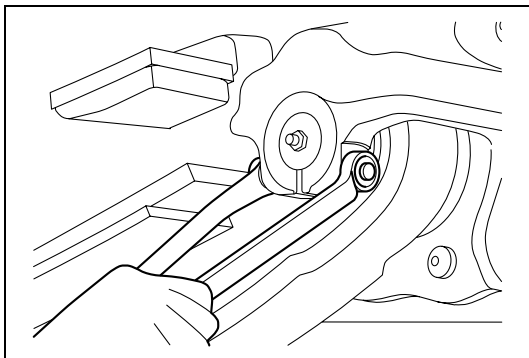
Bar (09841-2560)



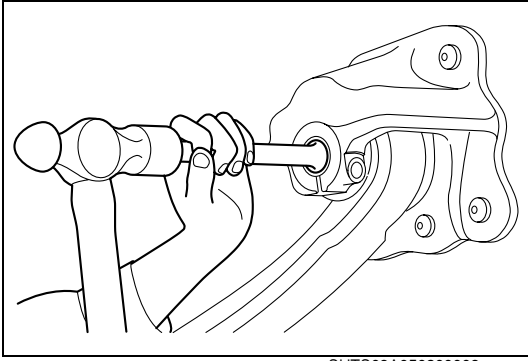
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3. REMOVAL OF THE SPRING PIN

- (1) Remove the lubrication fitting and spring pin lock bolt.

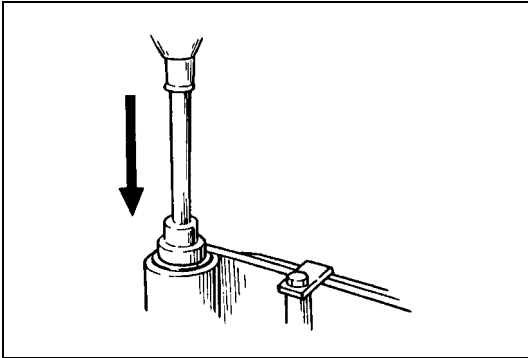


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- (2) Use a brass rod to remove the spring pins from the shackle and spring bracket.

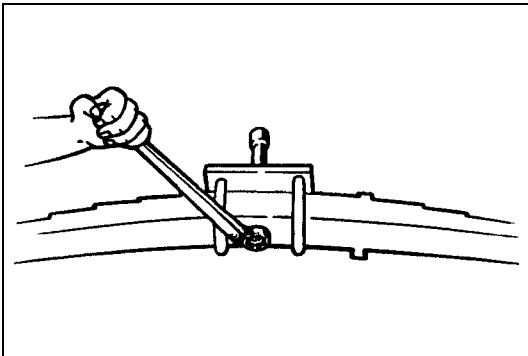


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IMPORTANT POINTS - DISASSEMBLY

1. REPLACEMENT OF THE EYE BUSHING

- (1) Use a suitable tool to press out the old eye bushing.
- (2) Use a suitable tool to press in the new eye bushing.



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2. DISASSEMBLY OF THE LEAF SPRING

⚠ WARNING

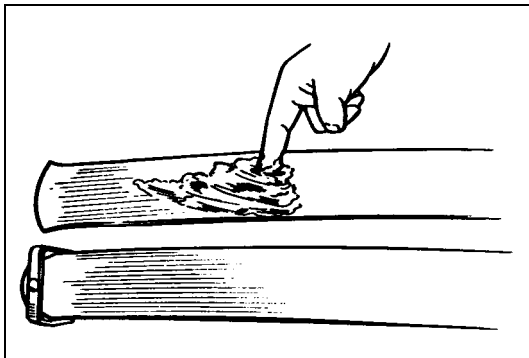
When removing the center bolt lock nut, the spring leaves may jump. Care should be taken to avoid possible personal injury.

- (1) Remove the clip bolts.
- (2) Use a vise or an arbor press to hold the leaf spring near the center bolt.
- (3) Remove the center bolt.
- (4) Loosen a vise or an arbor press slowly, and separate the leaves.

IMPORTANT POINT - ASSEMBLY**1. ASSEMBLY OF THE LEAF SPRING****⚠ WARNING**

When clamping the spring leaves, they may jump. Care should be taken to avoid possible personal injury.

- (1) Apply coating on the leaf after removing rust, and apply chassis grease on both surface at leaves.

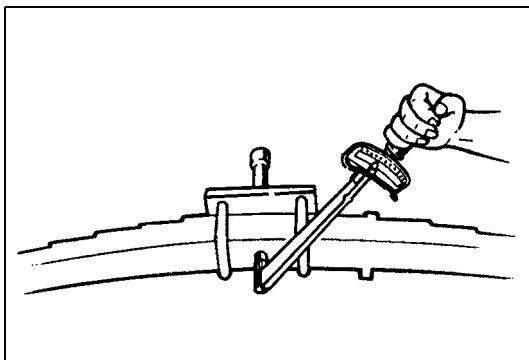


SHTS09A050200012

- (2) Align the leaf holes and secure the leaves with a vise or an arbor press.
- (3) Insert the center bolt and tighten the lock nut.

NOTICE

When reassembling the leaf spring, replace the center bolt with a new one.



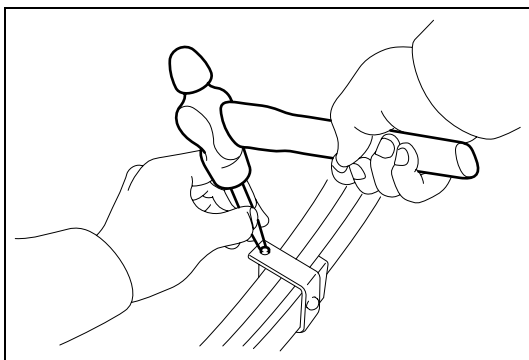
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- (4) Tighten the clip bolts.

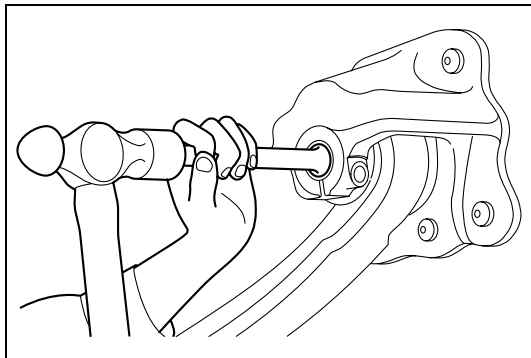
NOTICE

When tightening the clip bolts, use a new clip bolts.

- (5) Use a punch to peen the thread of the clip bolts.



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IMPORTANT POINTS - MOUNTING

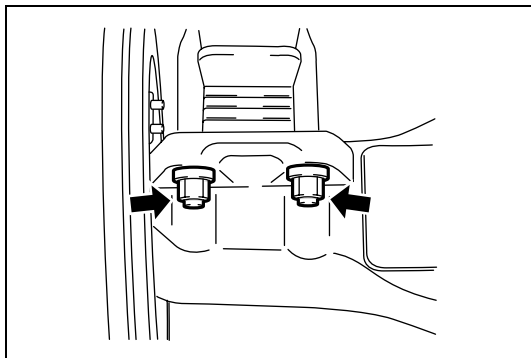
1. INSTALLATION OF THE SPRING PIN

- (1) Use a brass rod to install the spring pin with thrust washers.

NOTICE

Apply chassis grease on the surface of the eye bushing and spring pin before installing.

- (2) Install the spring pin lock bolt and nut.
- (3) Install and secure the lock nut.



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2. INSTALLATION OF THE U-BOLT

- (1) Set the U-bolts and tighten the U-bolt nuts temporarily.

- (2) Using the special tool, tighten the U-bolt nuts (4 pieces) alternately right and left and equally.

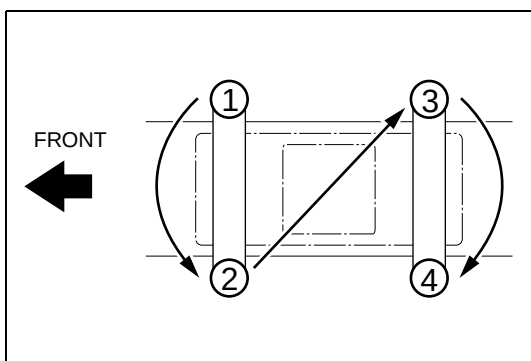
After repeating this operation 3 to 5 times, tighten the nuts to the specified torque.

SST:

Socket Wrench for Rear U-bolt (09839-3202)

Socket Wrench for Rear U-bolt (09839-3203)

Bar (09841-2560)



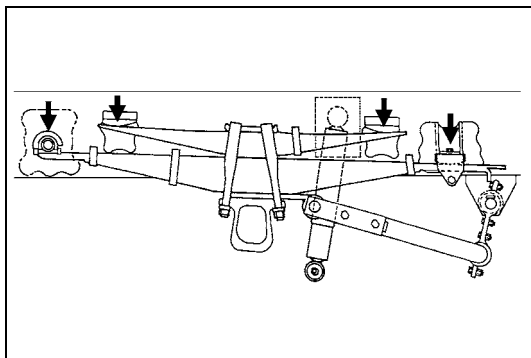
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3. ADJUSTMENT OF THE SUSPENSION AFTER ASSEMBLING

- (1) If the vehicle inclination is observed after assembling suspension, correct it by inserting the following spacer between the spring and the axle.

Spacer:

Part No.	Thickness (mm)
9004-85244	4.5



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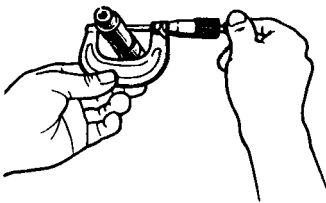
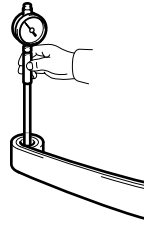
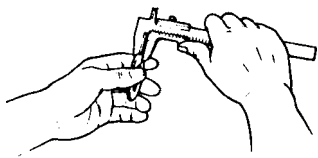
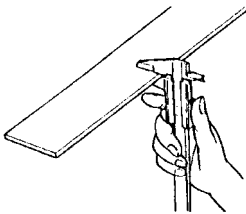
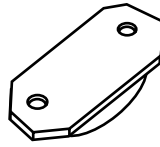
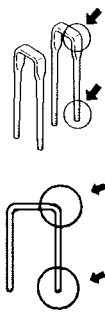
4. LUBRICATION

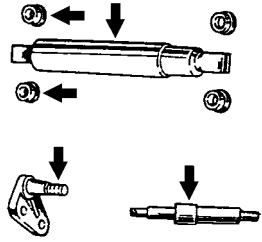
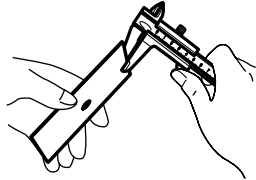
- (1) Lubricate the following parts with chassis grease.
 - a. Spring pins
 - b. Auxiliary spring slide seats

INSPECTION AND REPAIR

EN09A0502H300001

Unit: mm {in.}

Inspection item	Standard	Limit	Remedy	Inspection procedure
Spring pin: Outside diameter	38 {1.496}	37.7 {1.484}	Replace.	Measure 
Clearance between spring pin and eye bushing	0.020-0.125 {0.0008-0.0049}	0.5 {0.0196}	Replace the pin and/or bushing.	Measure 
Thrust washer: Wear	2.0 {0.079}	1.5 {0.059}	Replace.	Measure 
Leaf: Damage and wear	—	More than 15%	Replace.	Measure 
Spring bumper: Damage and wear	—	—	Replace, if necessary.	Visual check 
U-bolt: Damage	—	—	Replace, if necessary.	Visual check 

Inspection item	Standard	Limit	Remedy	Inspection procedure
Shock absorber: Operation, oil leak and damage	—	—	Replace, if necessary.	Visual check 
Cushion: Damage and wear	—	—		
Shock absorber pin and bracket: Damage and wear	—	—		
Stabilizer bar: Damage	—	—	Replace, if necessary.	Visual check 
Stabilizer sleeve: Wear				
Stabilizer bushing: Wear				
Inter leaf: Wear	1.0 {0.0397}	0.5 {0.0197}	Replace.	Measure 
Wear plate: Wear	4.5 {0.177}	4.0 {0.0158}	Replace.	Measure 