

REMOVING THE FRONT ARM

1. Check:

- Front arm free play

Checking steps:

- Check the front arm side play **A** by moving it from side to side.
If side play is noticeable, check the bushings.
- Check the front arm vertical movement **B** by moving it up and down.
If the vertical movement is tight or rough, or if there is binding, check the bushings.

2. Remove:

- Front arms

CHECKING THE FRONT ARM

1. Check:

- Front arms **1**
Bends/damage → Replace.

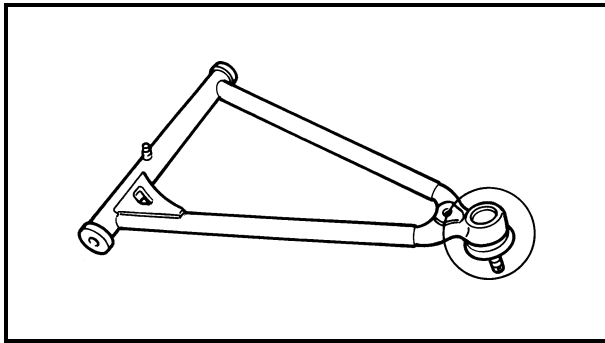
2. Check:

- Bushings **2**
Wear/damage → Replace.

CHECKING THE FRONT SHOCK ABSORBER

1. Check:

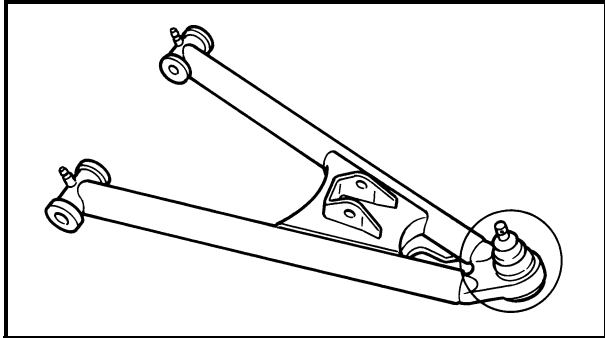
- Shock absorber rod
Bends/damage → Replace the shock absorber assembly.
- Shock absorber assembly
Oil leaks → Replace the shock absorber assembly.
- Spring
Fatigue → Replace the shock absorber assembly.
Move the spring up and down.



CHECKING THE BALL JOINT

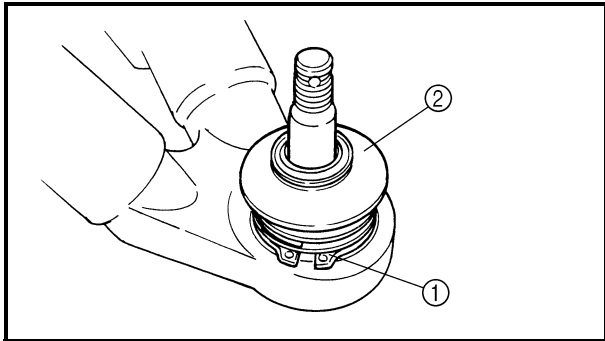
1. Check:

- Ball joint (front arm-upper)
Damage/pitting → Replace the front arm (upper).
Free play → Replace the front arm.
Turns roughly → Replace the front arm (upper).



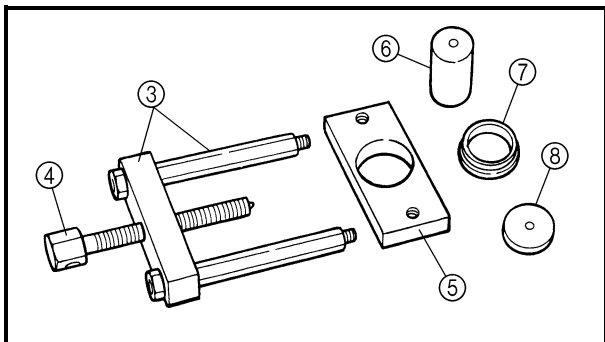
2. Check:

- Ball joint (front arm-lower)
Damage/pitting → Replace the ball joint.
Free play → Replace the ball joint.
Turns roughly → Replace the ball joint.



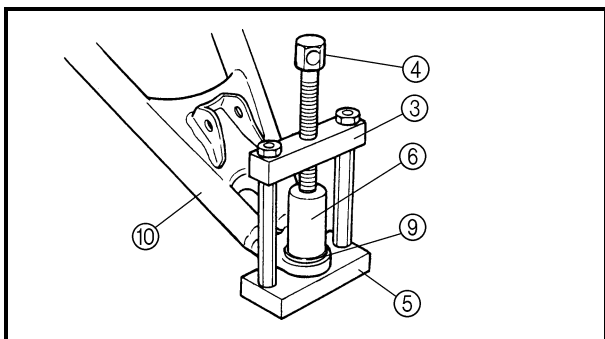
Ball joint replacement steps:

- Clean the outside of the front lower arm.
- Remove the circlip ① and rubber boot ②.
Use the ball joint remover and installer set.

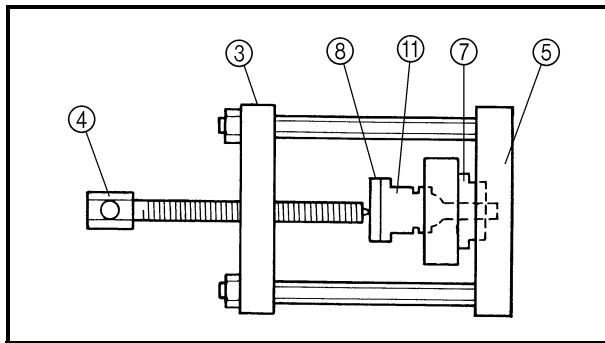


Ball joint remover/installer set:
P/N. YM-01474, 90890-01474
Ball joint remover/installer attachment set:
P/N. YM-01480, 90890-01480

③ Body	YM-01474
④ Long bolt	90890-01474
⑤ Base	
⑥ Remover attachment	YM-01480
⑦ Installer spacer	90890-01480
⑧ Installer washer	



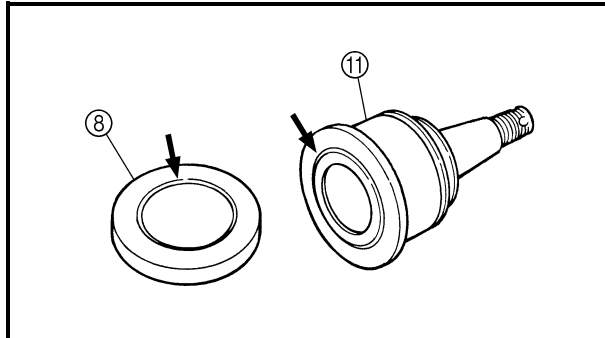
- Install the body ③, long bolt ④, base ⑤ and attachment ⑥ onto ball joint.
- Hold the body ③ in place while turning in the long bolt ④ to remove the ball joint ⑨ from the front lower arm ⑩.
- Remove the ball joint remover/installer.



- Attach the assembled ball joint remover/installer, new ball joint ⑪, installer spacer ⑦ and installer washer ⑧ to the front lower arm ⑩.

NOTE: _____

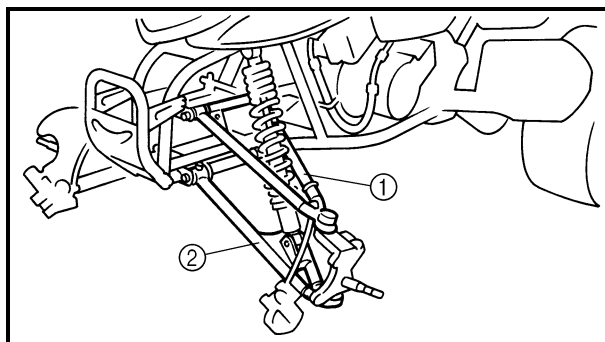
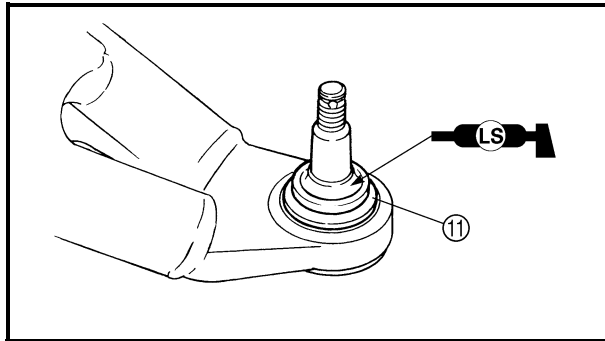
- Do not tap or damage the top of the ball joint.
- Installer spacer ⑦ must be aligned with the projection on the head of the ball joint ⑪.



- Remove the ball joint remover/installer.
- Apply lithium-soap base grease to the new ball joint ⑪.
- Install a new rubber boot and new circlip.

NOTE: _____

Always use a new ball joint set.



INSTALLING THE FRONT ARM

1. Install:

- Front upper arm ①

38 Nm (3.8 m • kg, 27 ft • lb)

- Front lower arm ②

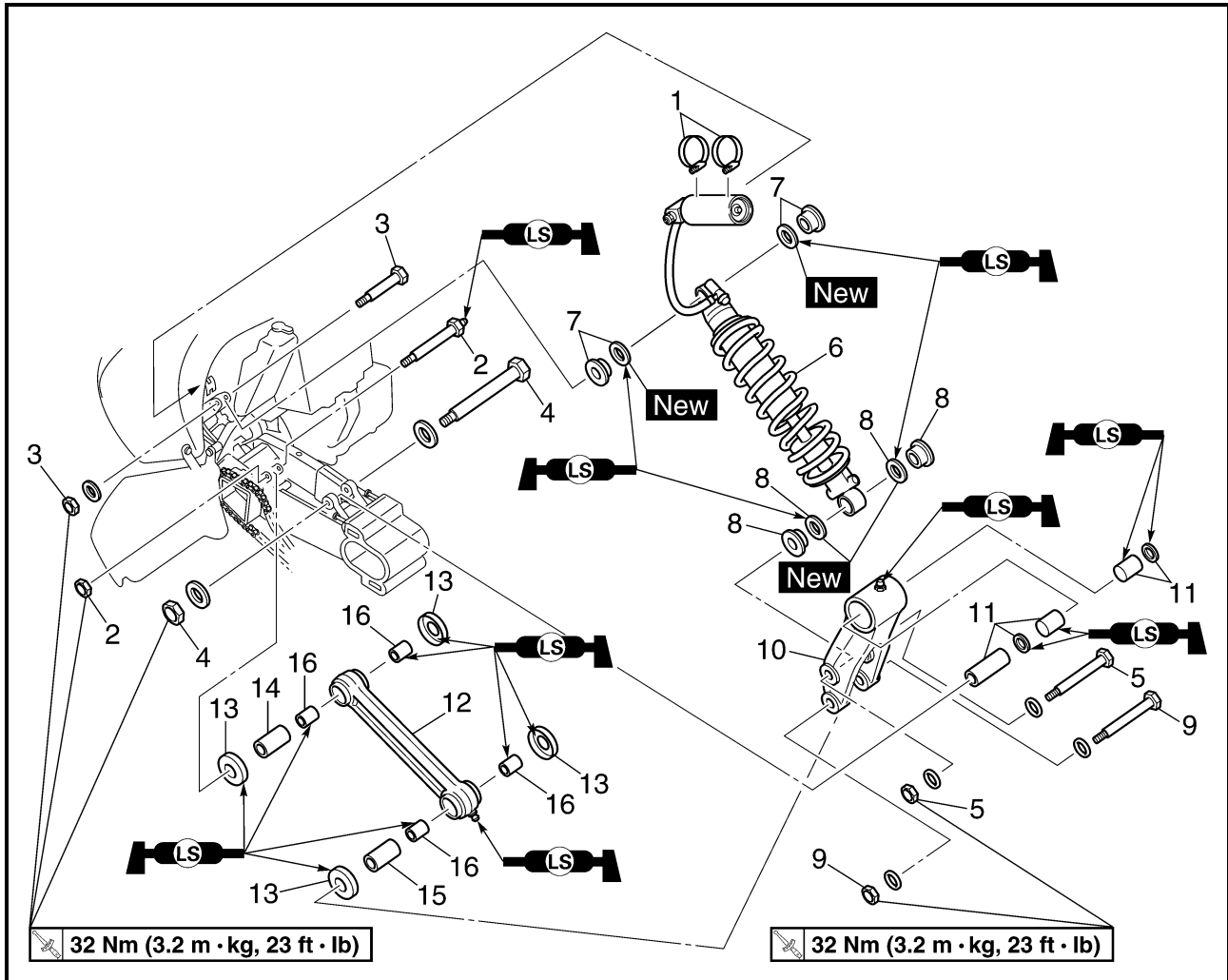
32 Nm (3.2 m • kg, 23 ft • lb)

NOTE: _____

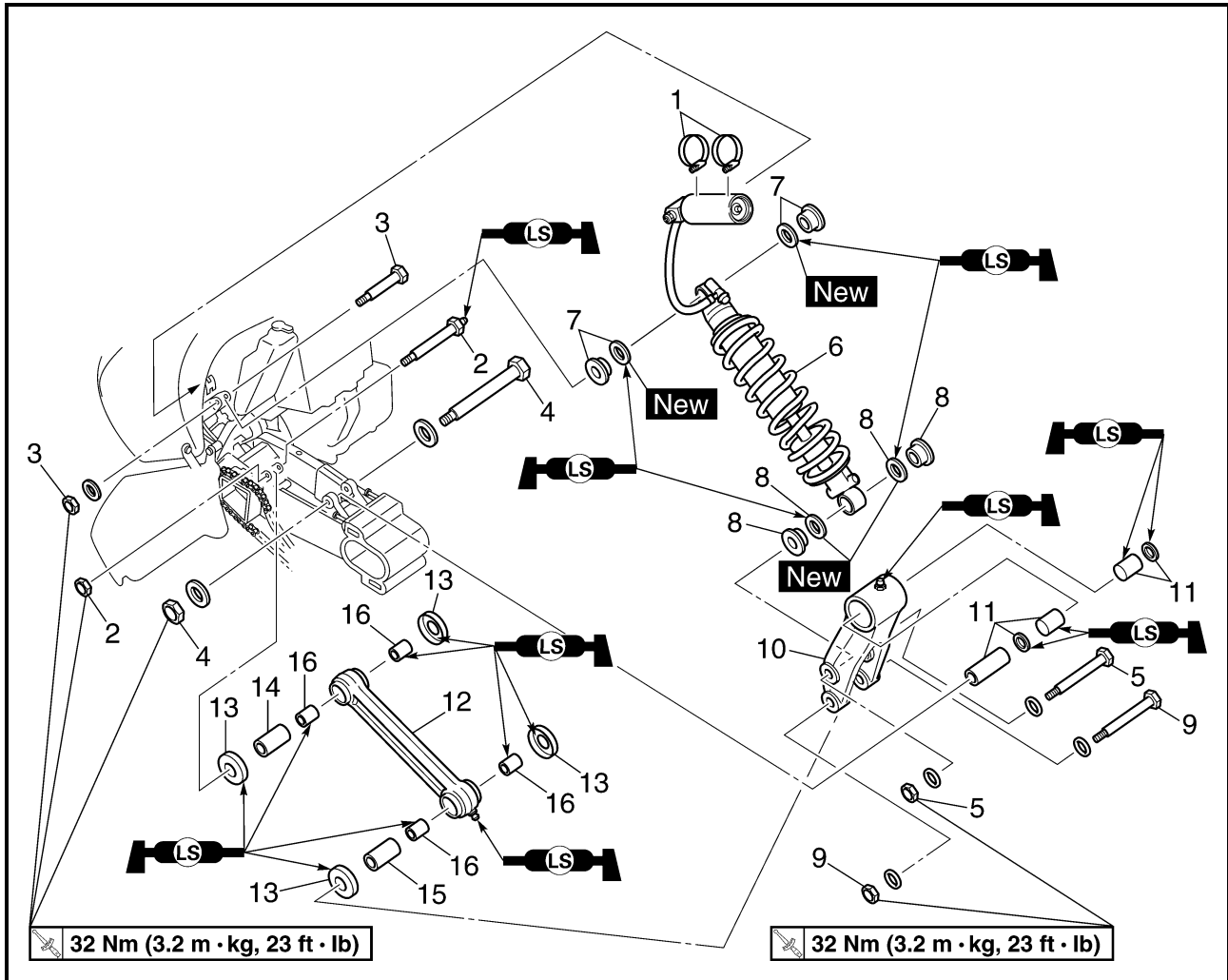
Be sure to position the bolts (upper and lower) so that the bolt head faces outward.



REAR SHOCK ABSORBER AND RELAY ARM



Order	Job name/Part name	Q'ty	Remarks
	Removing the rear shock absorber and relay arm		Remove the parts in the order below.
	Rear wheels and hub		Refer to "REAR WHEELS, WHEEL AXLE AND HUB".
1	Metal screw clamp	2	Refer to "REMOVING THE REAR SHOCK ABSORBER".
2	Self-locking nut/bolt	1/1	
3	Self-locking nut/bolt	1/1	
4	Self-locking nut/bolt	1/1	
5	Self-locking nut/bolt	1/1	
6	Rear shock absorber	1	
7	Collar/oil seal	2/2	
8	Collar/oil seal	2/2	



Order	Job name/Part name	Q'ty	Remarks
9	Self-locking nut/bolt	1/1	
10	Relay arm	1	
11	Spacer/oil seal/bushing	1/2/2	Refer to "INSTALLING THE RELAY ARM AND CONNECTING ARM".
12	Connecting arm	1	
13	Dust cover	4	
14	Spacer	1	
15	Spacer	1	
16	Bushing	4	Refer to "INSTALLING THE RELAY ARM AND CONNECTING ARM". For installation, reverse the removal procedure.

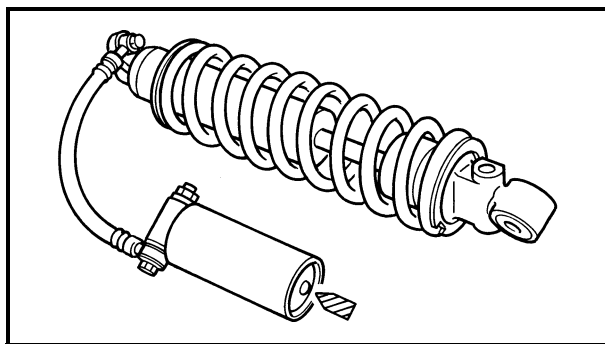


HANDLING THE REAR SHOCK ABSORBER AND GAS CYLINDER

⚠ WARNING

This rear shock absorber and gas cylinder contain highly compressed nitrogen gas. Before handling the rear shock absorber or gas cylinder, read and make sure you understand the following information. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling of the rear shock absorber and gas cylinder.

- Do not tamper or attempt to open the rear shock absorber or gas cylinder.
- Do not subject the rear shock absorber or gas cylinder to an open flame or any other source of high heat. High heat can cause an explosion due to excessive gas pressure.
- Do not deform or damage the rear shock absorber or gas cylinder in any way. If the rear shock absorber, gas cylinder or both are damaged, damping performance will suffer.



DISPOSING OF A REAR SHOCK ABSORBER AND GAS CYLINDER

Gas pressure must be released before disposing of a rear shock absorber and gas cylinder. To release the gas pressure, press on the gas valve needle with a suitable tool as shown, until all of the gas is released (the hissing has stopped).

⚠ WARNING

Wear eye protection to prevent eye damage from released gas or metal chips.



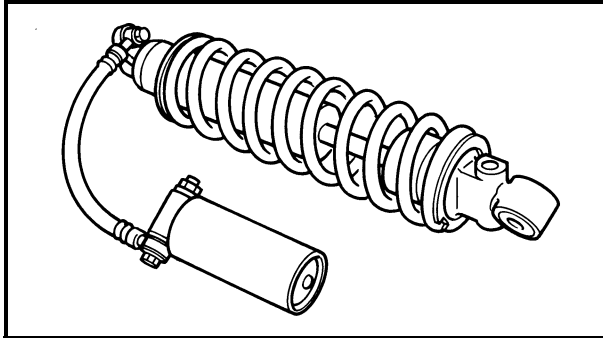
REMOVING THE REAR SHOCK ABSORBER

1.Remove:

- Connecting arm-to-frame bolt
- Rear shock absorber upper bolt

NOTE: _____

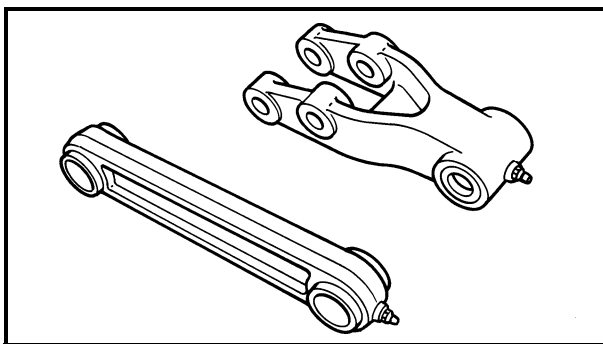
While removing the connecting arm-to-frame bolt, hold the swingarm so that it does not drop down.



CHECKING THE REAR SHOCK ABSORBER

1.Check:

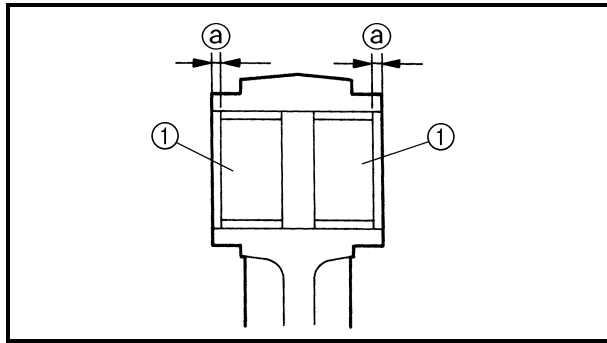
- Shock absorber
Oil leaks → Replace the rear shock absorber assembly.
- Shock absorber rod
Bends/damage → Replace the rear shock absorber assembly.
- Spring
Fatigue → Replace the rear shock absorber assembly.
Move the spring up and down.
- Gas cylinder
Damage/gas leaks → Replace the rear shock absorber assembly.



CHECKING THE RELAY ARM AND CONNECTING ARM

1.Check:

- Relay arm
- Connecting arm
Damage/wear → Replace.
- Bushings
- Spacers
- Oil seals
Damage/pitting/scratches → Replace.



INSTALLING THE RELAY ARM AND CONNECTING ARM

1. Install:

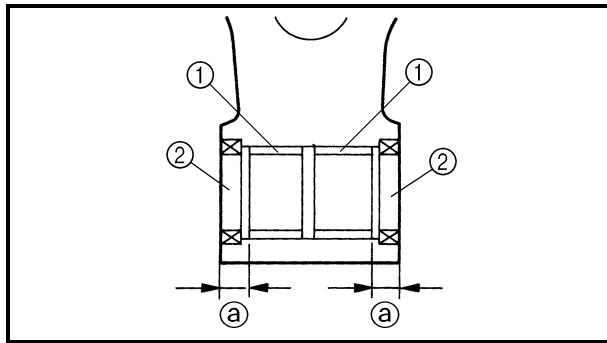
- Bushing ①
(to connecting arm)

NOTE:

Apply the lithium soap base grease on the bushing when installing.



Installed depth of bushing ①:
1 mm (0.04 in)



2. Install:

- Bushing ①
- Oil seal ② **New**
(to relay arm)

NOTE:

Apply the lithium soap base grease on the bushing when installing.



Installed depth of bushing ①:
6.5 mm (0.26 in)

INSTALLING THE REAR SHOCK ABSORBER

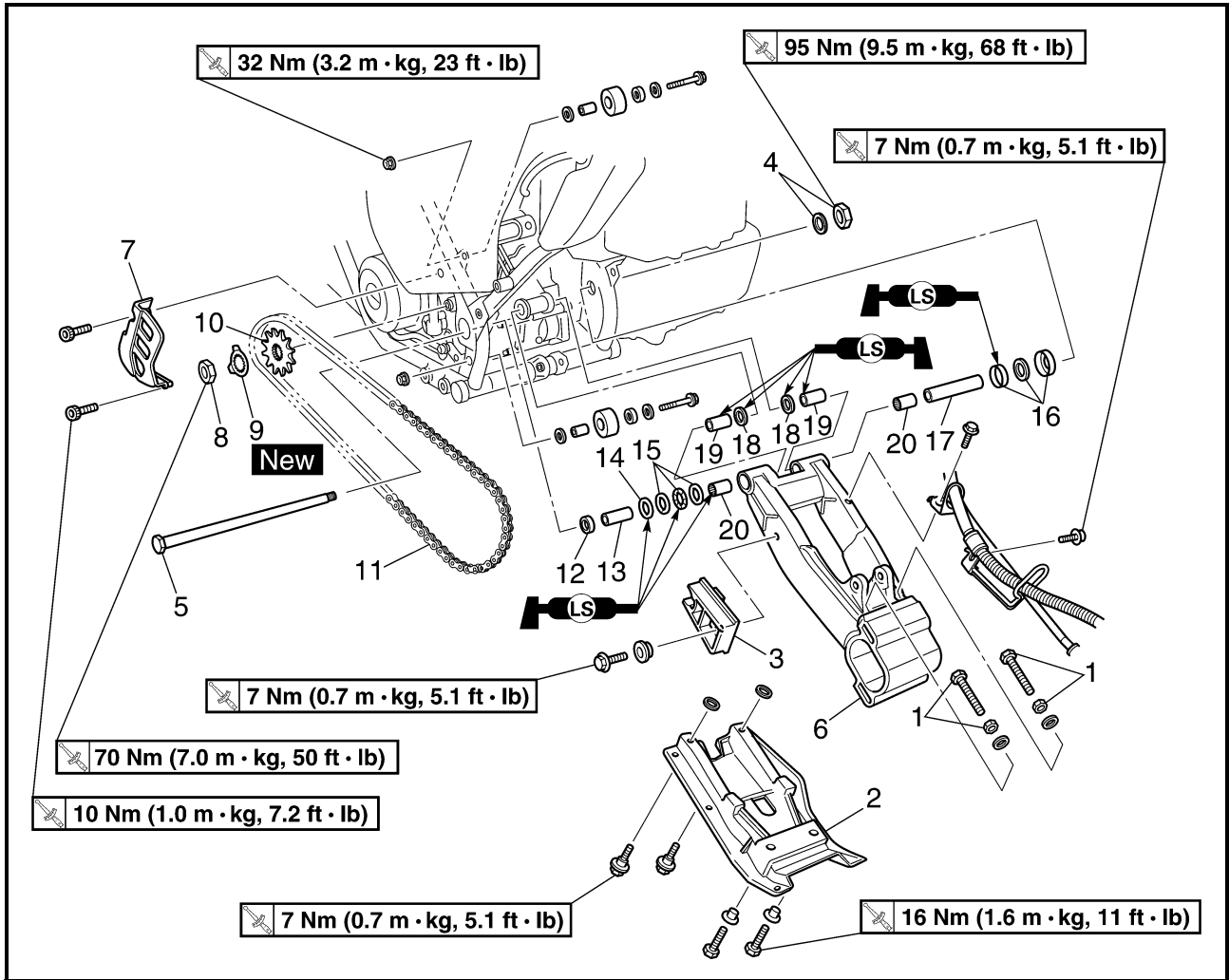
1. Install:

- Connecting arm
- Relay arm
- Rear shock absorber

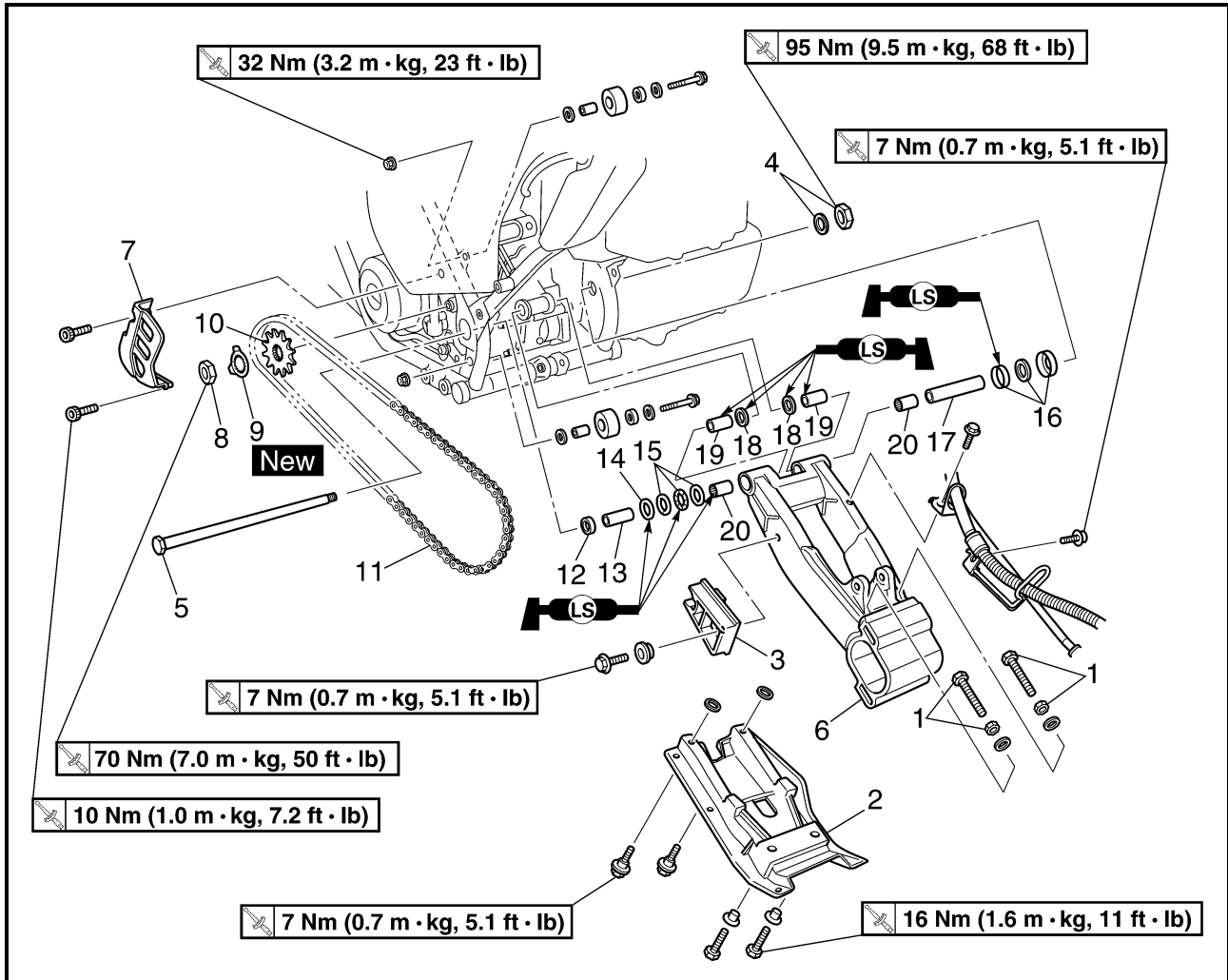
NOTE:

When installing the rear shock absorber, lift up the swingarm.

SWINGARM AND DRIVE CHAIN

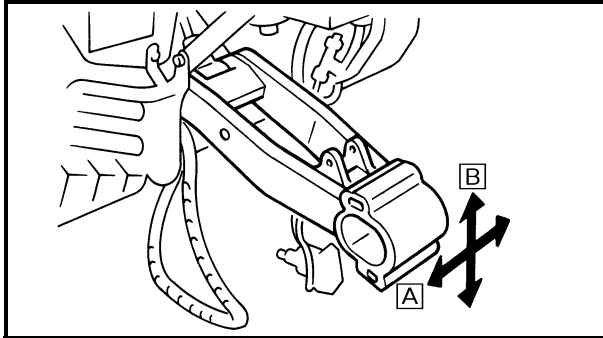


Order	Job name/Part name	Q'ty	Remarks
	Removing the swingarm and drive chain		Remove the parts in the order below.
	Rear wheels and hub		Refer to "REAR WHEELS, WHEEL AXLE AND HUB".
	Rear shock absorber		Refer to "REAR SHOCK ABSORBER AND RELAY ARM".
	Left footrest and left footrest guard bracket		Refer to "ENGINE REMOVAL" in CHAPTER 5.
1	Adjusting bolt/nut	2/2	
2	Swingarm skid plate	1	
3	Drive chain guide	1	
4	Pivot shaft nut/washer	1/1	
5	Pivot shaft	1	
6	Swingarm	1	Refer to "REMOVING THE SWINGARM".
7	Drive sprocket cover	1	



Order	Job name/Part name	Q'ty	Remarks
8	Nut	1	Refer to "INSTALLING THE DRIVE SPROCKET".
9	Lock washer	1	
10	Drive sprocket	1	
11	Drive chain	1	
12	Collar	1	
13	Spacer	1	Refer to "INSTALLING THE SWING-ARM". For installation, reverse the removal procedure.
14	Oil seal	1	
15	Bearing	1	
16	Dust cover/oil seal/washer	1/1/1	
17	Spacer	1	
18	Oil seal	2	
19	Bushing	2	
20	Bearing	2	

NOTE: _____
 Before removing the drive chain and the sprockets, measure the drive chain slack and a ten link section of the drive chain.




REMOVING THE SWINGARM

1. Check:
- Swingarm free play

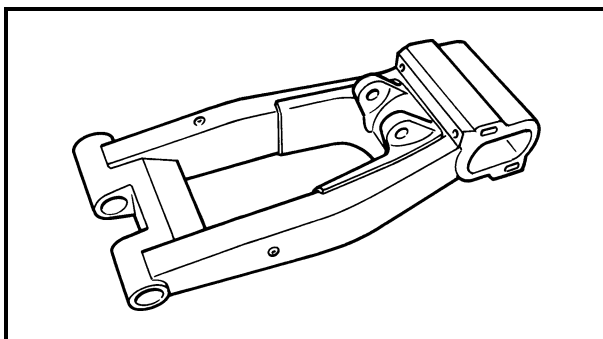
Checking steps:

- Check the tightening torque of the pivot shaft nut.

	<p>Pivot shaft nut: 95 Nm (9.5 m • kg, 68 ft • lb)</p>
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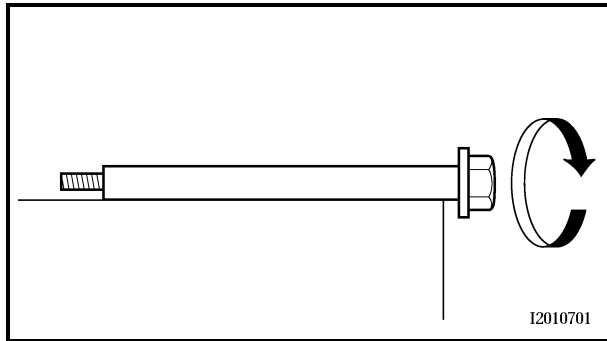
- Check the swingarm side play **A** by moving it from side to side.
 If side play is noticeable, check the collar, spacers, bearings, bushings and frame pivot.
- Check the swingarm vertical movement **B** by moving it up and down.
 If vertical movement is tight or rough, or if there is binding, check the collar, spacers, bearings, bushings and frame pivot.

2. Remove:
- Pivot shaft nut
 - Pivot shaft
 - Swingarm



CHECKING THE SWINGARM

1. Check:
- Swingarm
 Bends/cracks/damage → Replace.



2. Check:

- Pivot shaft
 - Roll the axle on a flat surface.
 - Bends → Replace.

⚠ WARNING

Do not attempt to straighten a bent pivot shaft.

3. Clean:

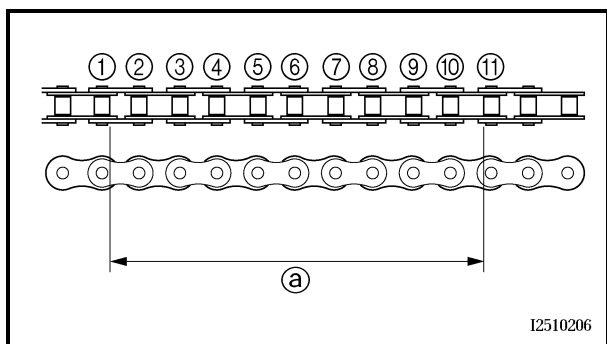
- Pivot shaft
- Collar
- Spacers
- Bearings
- Bushings



**Recommended cleaning solvent:
Kerosine**

4. Check:

- Spacers
 - Damage/wear → Replace.
- Bearings
- Bushings
 - Damage/pitting → Replace.



CHECKING THE DRIVE CHAIN

1. Measure:

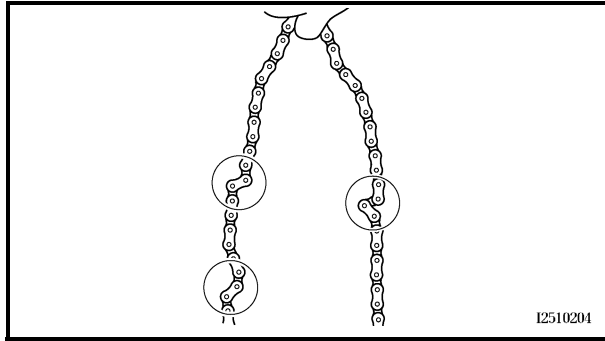
- Ten-link section ① of the drive chain
 - Out of specification → Replace the drive chain.



**Max. ten-link drive chain section:
150.1 mm (5.91 in)**

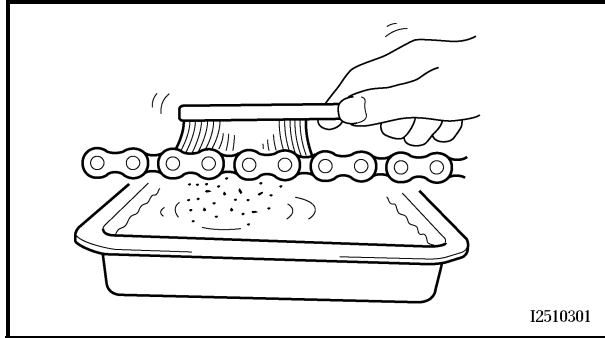
NOTE:

- While measuring the ten-link section, push down on the drive chain to increase its tension.
- Measure the length between drive chain roller ① and ⑪ as shown.
- Perform this measurement at two or three different places.



2. Check:

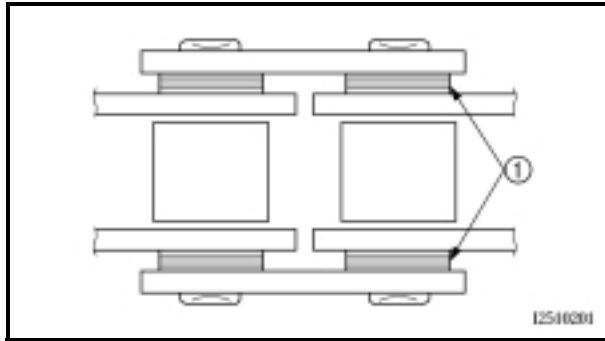
- Drive chain
Stiffness → Clean and lubricate or replace.



3. Clean:

- Drive chain

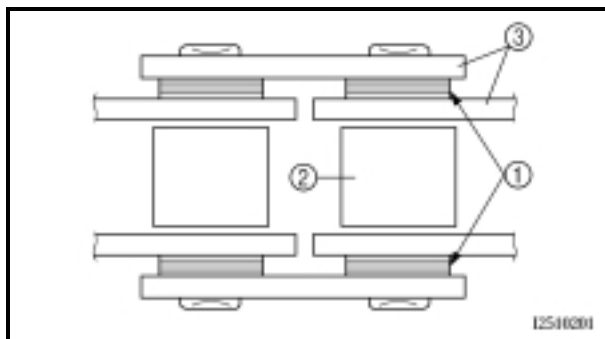
- Wipe the drive chain with a clean cloth.
- Put the drive chain in kerosine and remove any remaining dirt.



- Remove the drive chain from the kerosine and completely dry it.

CAUTION:

This machine has a drive chain with small rubber O-rings ① between the drive chain side plates. Never use high-pressure water or air, steam, gasoline, certain solvents (e.g., benzine), or a coarse brush to clean the drive chain. High-pressure methods could force dirt or water into the drive chain's internals, and solvents will deteriorate the O-rings. A coarse brush can also damage the O-rings. Therefore, use only kerosine to clean the drive chain.



4. Check:

- O-rings ①
Damage → Replace the drive chain.
- Drive chain rollers ②
Damage/wear → Replace the drive chain.
- Drive chain side plates ③
Cracks/damage/wear → Replace the drive chain.