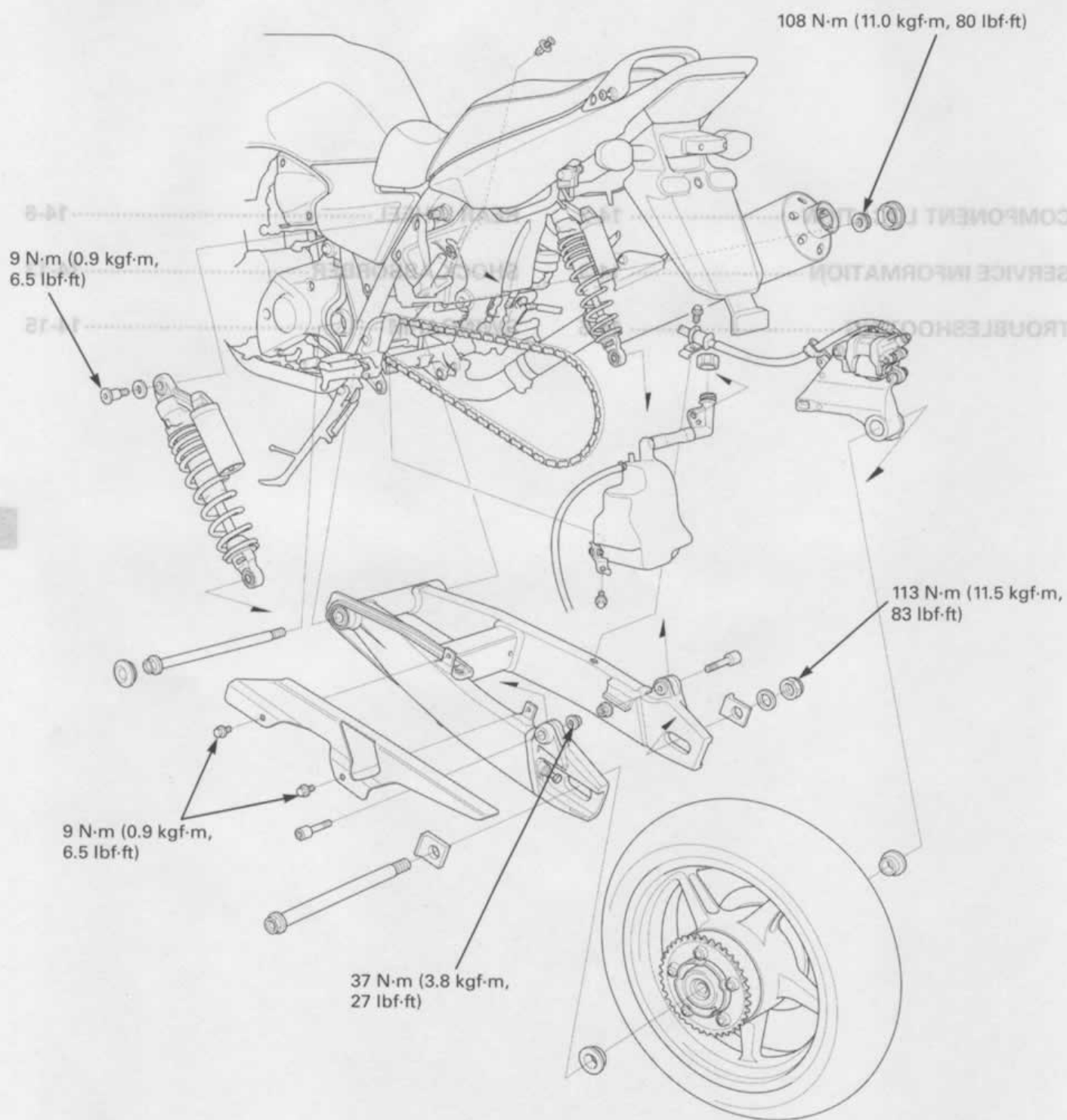


# 14. REAR WHEEL/SUSPENSION

COMPONENT LOCATION

COMPONENT LOCATION .....	14-2	REAR WHEEL .....	14-6
SERVICE INFORMATION .....	14-3	SHOCK ABSORBER .....	14-13
TROUBLESHOOTING .....	14-5	SWINGARM .....	14-15

# COMPONENT LOCATION



# SERVICE INFORMATION

TOOLS

## GENERAL

- A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.
- After the rear wheel installation, check the brake operation by applying the brake pedal.
- The shock absorber contains nitrogen under high pressure. Do not allow fire or heat near the shock absorber.
- Before disposal of the shock absorber, release the nitrogen (page 14-14).
- When servicing the rear wheel and suspension, support the motorcycle using a safety stand or hoist.
- Use only tires marked "TUBELESS" and tubeless valves on rim marked "TUBELESS TIRE APPLICABLE".
- Use genuine Honda replacement bolts and nuts for all suspension pivot and mounting point.
- Refer to the brake system information (page 15-4).

## SPECIFICATIONS

Unit: mm (in)

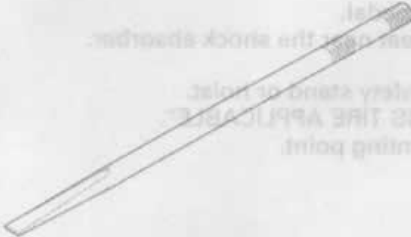

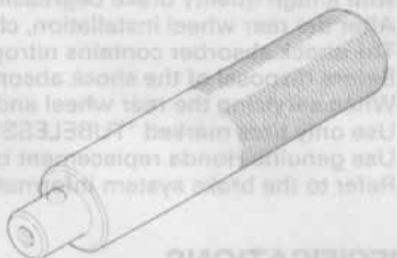





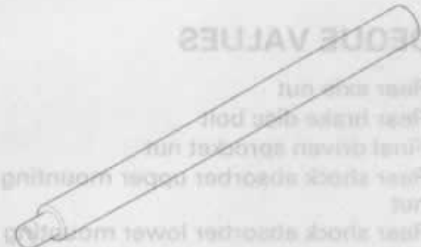
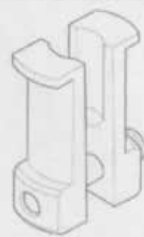
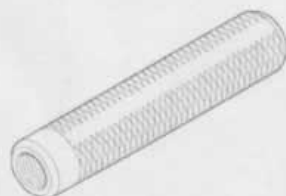
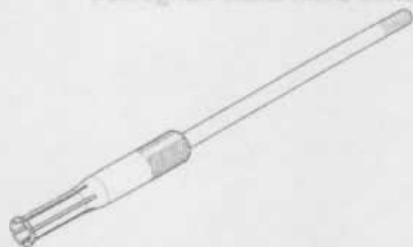
ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		-	2.0 (0.08)
Cold tire pressure	Driver only	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)	-
	Driver and passenger	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)	-
Axle runout		-	0.2 (0.01)
Wheel rim runout	Radial	-	2.0 (0.08)
	Axial	-	2.0 (0.08)
Wheel balance weight		-	60 g (2.1 oz) max.
Drive chain	Size/link	DID	DID50ZVM2-114LE
		RK	RK50LF0Z2-114LE
	Slack	25 - 35 (1.0 - 1.4)	
Shock absorber	Spring preload adjuster standard position	2nd position	
	Rebound adjuster initial setting	10 clicks out from full hard	

## TOEQUE VALUES

Rear axle nut	113 N·m (11.5 kgf·m, 83 lbf·ft)	U-nut
Rear brake disc bolt	42 N·m (4.3 kgf·m, 31 lbf·ft)	ALOC bolt: replace with a new one
Final driven sprocket nut	108 N·m (11.0 kgf·m, 80 lbf·ft)	U-nut
Rear shock absorber upper mounting nut	9 N·m (0.9 kgf·m, 6.5 lbf·ft)	
Rear shock absorber lower mounting nut	37 N·m (3.8 kgf·m, 27 lbf·ft)	U-nut
Swingarm pivot nut	108 N·m (11.0 kgf·m, 80 lbf·ft)	U-nut
		Apply oil to the threads and seating surface.
Drive chain slider flange bolt	9 N·m (0.9 kgf·m, 6.5 lbf·ft)	ALOC bolt: replace with a new one

# REAR WHEEL/SUSPENSION

## TOOLS

<p>Bearing remover shaft 07GGD-0010100</p> 	<p>Bearing remover head, 25 mm 07746-0050800</p> 	<p>Driver 07749-0010000</p> 
<p>Attachment, 52 X 55 mm 07746-0010400</p> 	<p>Pilot, 25 mm 07746-0040600</p> 	<p>Attachment, 62 X 68 mm 07746-0010500</p> 
<p>Pilot, 28 mm 07746-0041100</p> 	<p>Pilot, 30 mm 07746-0040700</p> 	<p>Driver shaft 07946-MJ00100</p> 
<p>Needle bearing remover 07HMC-MR70100</p> 	<p>Bearing remover handle 07936-3710100</p> 	<p>Bearing remover shaft 07936-3710600</p> 

<p>Remove weight 07741-0010201</p> 	<p>Attachment, 37 X 40 mm 07746-0010200</p> 	<p>Pilot, 20 mm 07746-0040500</p> 
--	---	---

## TROUBLESHOOTING

### Soft suspension

- Weak shock absorber spring
- Incorrect suspension adjustment
- Oil leakage from damper unit
- Insufficient tire pressure

### Hard suspension

- Incorrect suspension adjustment
- Damaged rear suspension pivot bearings
- Bent damper rod
- Incorrect swingarm pivot fasteners tightening
- Tire pressure too high

### Rear wheel wobbling

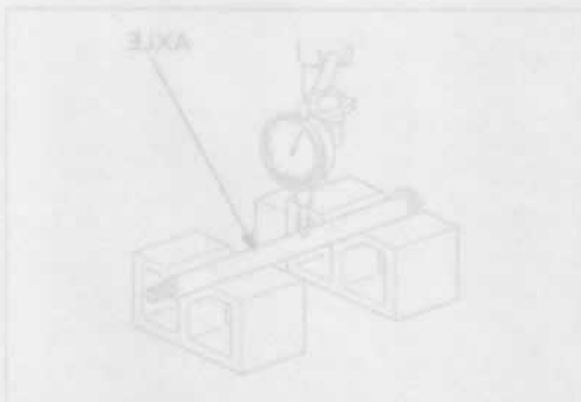
- Bent rim
- Worn or damaged rear wheel bearings
- Faulty rear tire
- Unbalanced rear tire and wheel
- Insufficient rear tire pressure
- Faulty swingarm pivot bearings

### Rear wheel turns hard

- Faulty rear wheel bearings
- Bent rear axle
- Rear brake drag
- Drive chain too tight

### Rear suspension noise

- Faulty rear shock absorber
- Loose rear suspension fasteners
- Worn rear suspension pivot bearings



INSPECTION  
Place the axle in V-blocks and measure the runout.  
Actual runout is 1/2 the total indicator reading.  
SERVICE LIMIT: 0.3 mm (0.01 in)

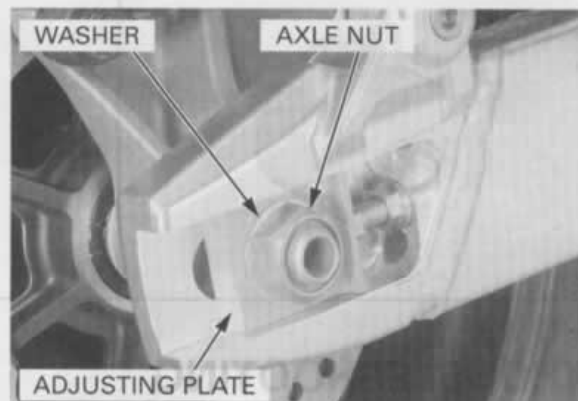
## REAR WHEEL

### REMOVAL

Loosen the rear axle nut.

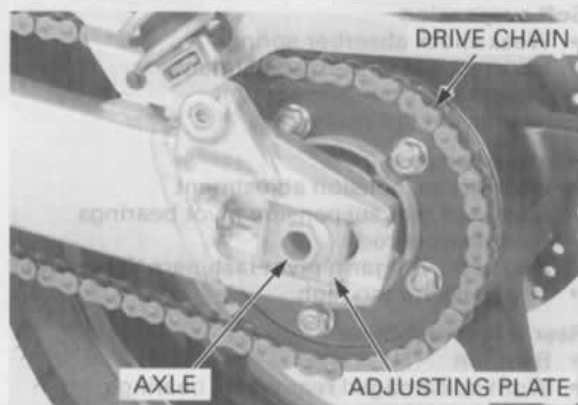
Support the motorcycle using a safety stand or a hoist, raise the rear wheel off the ground.

Remove the axle nut, washer and right drive chain adjusting plate.

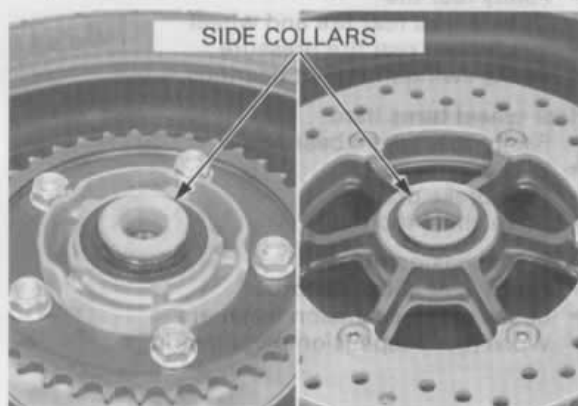


Remove the rear axle and left drive chain adjusting plate.

Move the rear wheel forward, derail the drive chain from the driven sprocket, then remove the rear wheel.



Remove the right and left side collars.

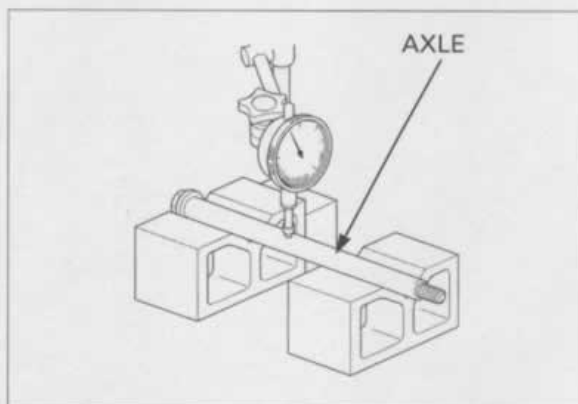


### INSPECTION

#### Axle

Place the axle in V-blocks and measure the runout. Actual runout is 1/2 the total indicator reading.

**SERVICE LIMIT: 0.2 mm (0.01 in)**



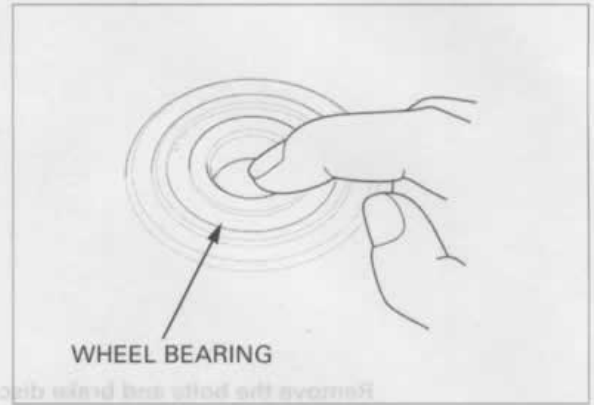
## Wheel bearing

Turn the inner race of each bearing with your finger. Bearings should turn smoothly and quietly. Also check that the bearing outer race fits tightly in the hub.

Replace the wheel bearings in pairs.

Remove and discard the bearings if the races do not turn smoothly and quietly, or if they fit loosely in the hub.

Remove the right dust seal.



## Wheel rim runout

Check the rim runout by placing the wheel in a turning stand. Spin the wheel slowly and read the runout using a dial indicator. Actual runout is 1/2 the total indicator reading.

### SERVICE LIMITS:

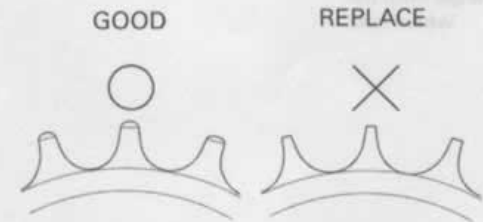
- Radial: 2.0 mm (0.08 in)
- Axial: 2.0 mm (0.08 in)



## Driven sprocket

Check the condition of the final driven sprocket teeth. Replace the sprocket if worn or damaged.

- If the final driven sprocket requires replacement, inspect the drive chain and drive sprocket.
- Never install a new drive chain on a worn sprocket or a worn chain on new sprockets. Both chain and sprocket must be in good condition or the replacement chain or sprocket will wear rapidly.

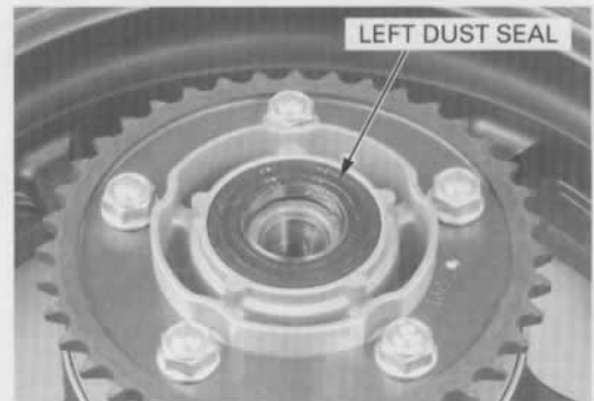


## Wheel balance

Refer to the wheel balance servicing (page 13-14).

## DISASSEMBLY

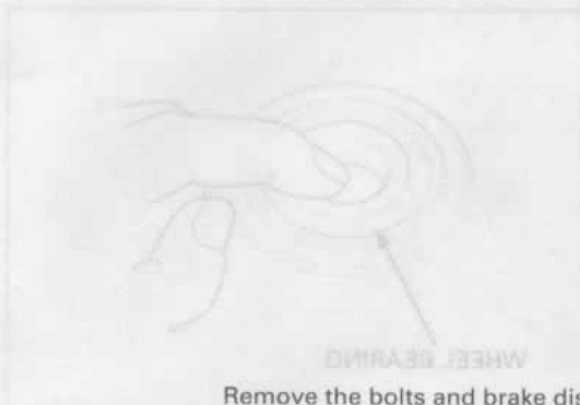
Remove the left dust seal.



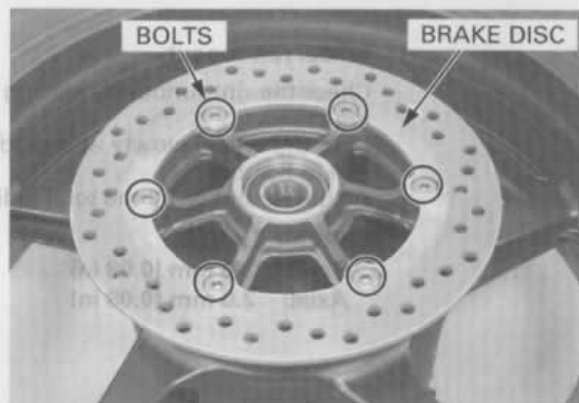


## REAR WHEEL/SUSPENSION

Remove the right dust seal.

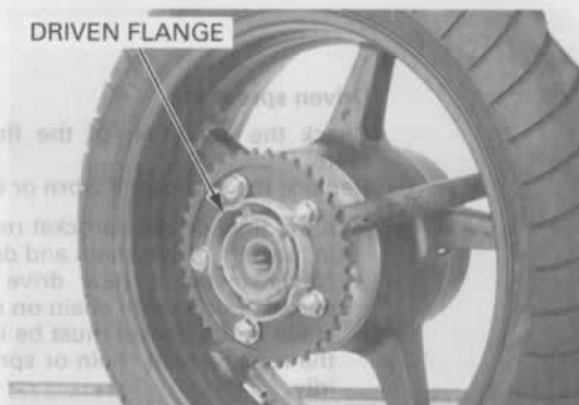
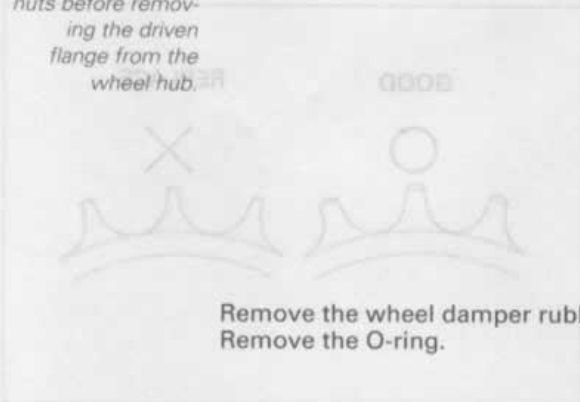


Remove the bolts and brake disc.

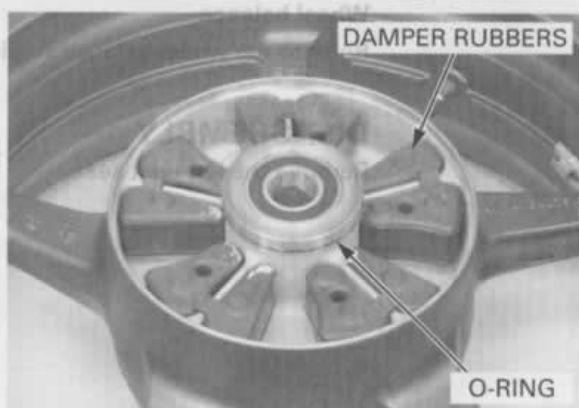


If you will be disassemble the driven flange, loosen the driven sprocket nuts before removing the driven flange from the wheel hub.

Remove the driven flange assembly from the left wheel hub.



Remove the wheel damper rubbers.  
Remove the O-ring.

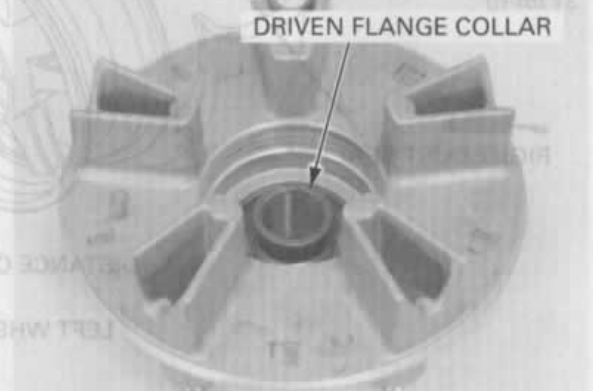
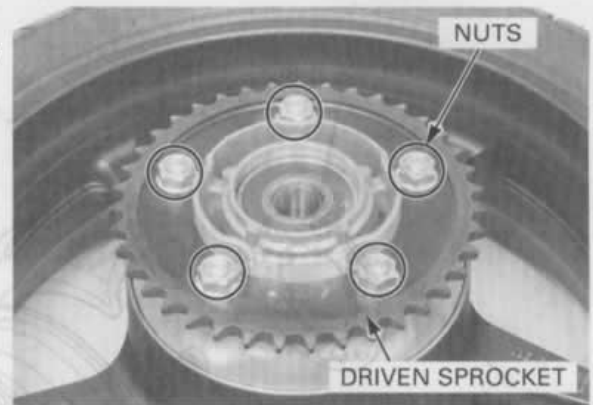




## Driven flange bearing removal

Loosen the driven sprocket nuts.

Remove the driven flange from the wheel hub, then remove the driven sprocket nuts and sprocket.

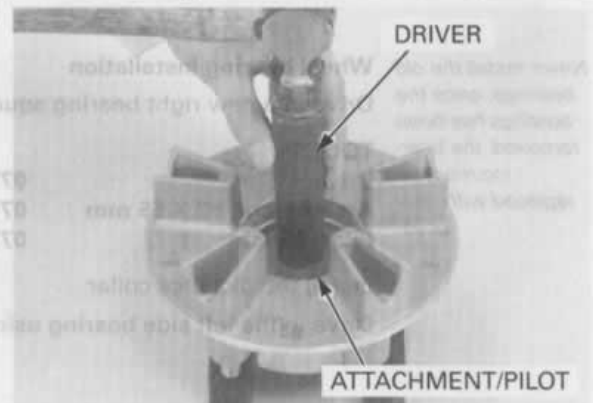


Drive the driven flange collar out from the driven flange bearing.

Drive the driven flange bearing out using the special tools.

### TOOLS:

Driver	07749-0010000
Attachment, 37 X 40 mm	07746-0010200
Pilot, 25 mm	07746-0040600

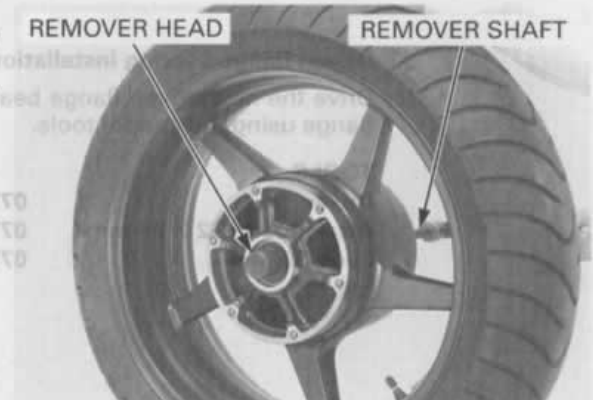


## Wheel bearing removal

Install the bearing remover head into the bearing. From the opposite side install the bearing remover shaft and drive the bearing out of the wheel hub. Remove the distance collar and drive out the other bearing.

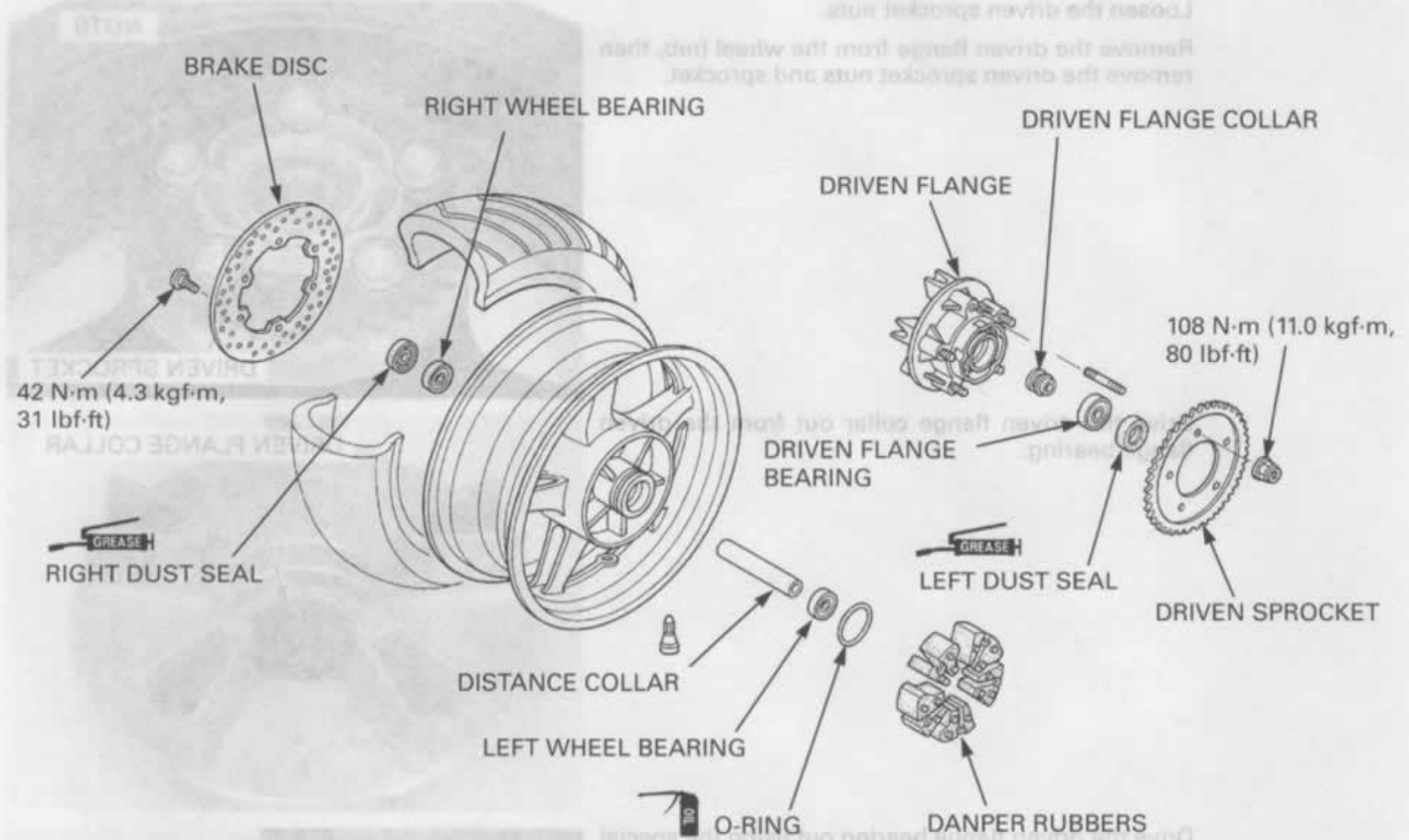
### TOOLS:

Bearing remover head, 25 mm	07746-0050800
Bearing remover shaft	07GGD-0010100 or 07746-0050100



# REAR WHEEL/SUSPENSION

## ASSEMBLY



Never install the old bearings, once the bearings has been removed, the bearing must be replaced with new ones.

### Wheel bearing installation

Drive in a new right bearing squarely.

#### TOOLS:

Driver

Attachment, 52 X 55 mm

Pilot, 25 mm

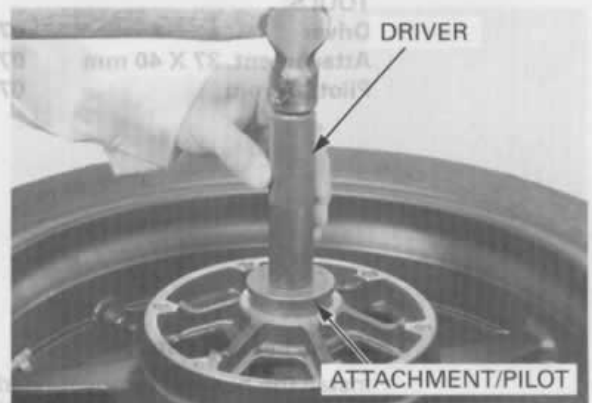
07749-0010000

07746-0010400

07746-0040600

Install the distance collar

Drive in the left side bearing using the same tools.



### Driven flange bearing installation

Drive the new driven flange bearing into the driven flange using the special tools.

#### TOOLS:

Driver

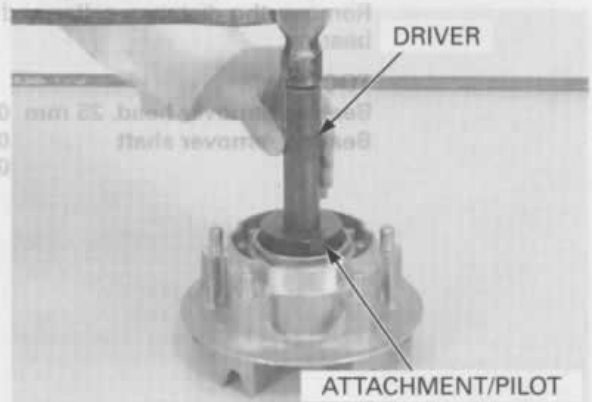
Attachment, 62 X 68 mm

Pilot, 30 mm

07749-0010000

07746-0010500

07746-0040700



Install the driven flange collar in the new driven flange bearing until it is fully seated.

DRIVEN FLANGE COLLAR

DRIVEN FLANGE BEARING

Install the wheel damper rubbers into the wheel hub. Apply grease to the new O-ring and install it into the groove of the wheel hub.

DAMPER RUBBERS

O-RING

Install the driven flange assembly into the left wheel hub. If the driven sprocket was removed, install the driven sprocket and tighten the nuts.

**TORQUE: 108 N·m (11.0 kgf·m, 80 lbf·ft)**

NUTS

DRIVEN SPROCKET

Install the brake disc with its rotating direction mark facing out. Install and tighten the new bolts to the specified torque.

**TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)**

BOLTS

BRAKE DISC

ROTATING DIRECTION MARK

## REAR WHEEL/SUSPENSION

Apply grease to the new left dust seal lips, install it into the driven flange.

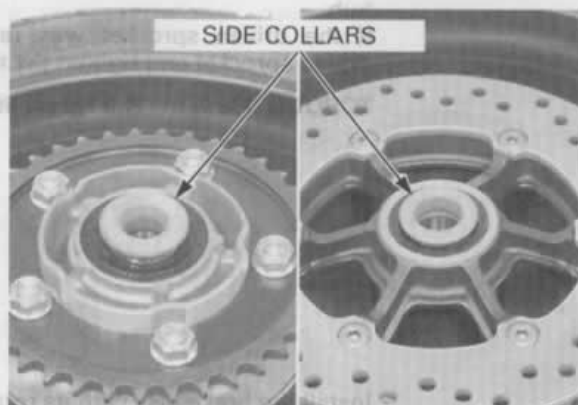


Apply grease to the new right dust seal lips, install it into the right wheel hub.

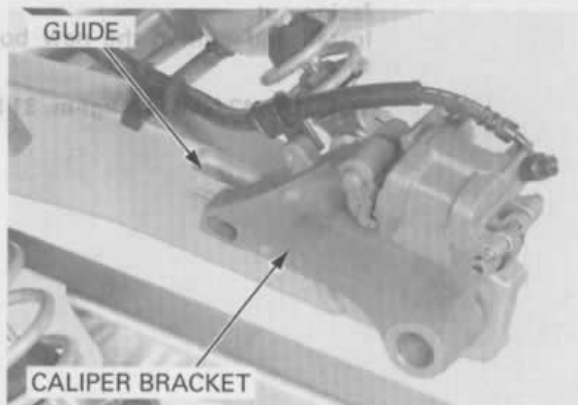


### INSTALLATION

Install the right and left side collars.

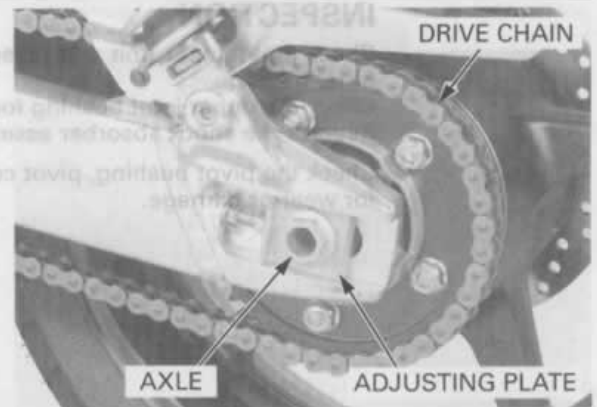


Install the rear brake caliper bracket onto the guide of the swingarm.



Be careful not to damage the brake pads.

Place the rear wheel into the swingarm. Install the drive chain over the driven sprocket. Install the left drive chain adjusting plate and rear axle from the left side.

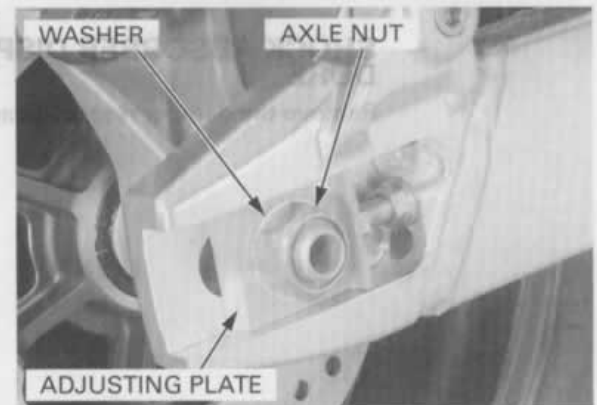


Install the right drive chain adjusting plate, washer and axle nut.

Adjust the drive chain slack (page 4-20).

Tighten the axle nut to the specified torque.

**TORQUE: 113 N·m (11.5 kgf·m, 83 lbf·ft)**

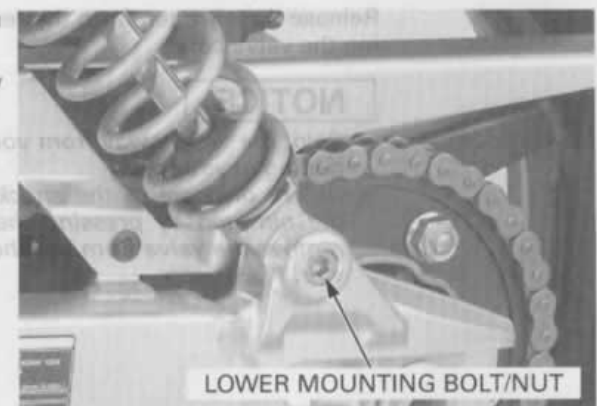


## SHOCK ABSORBER

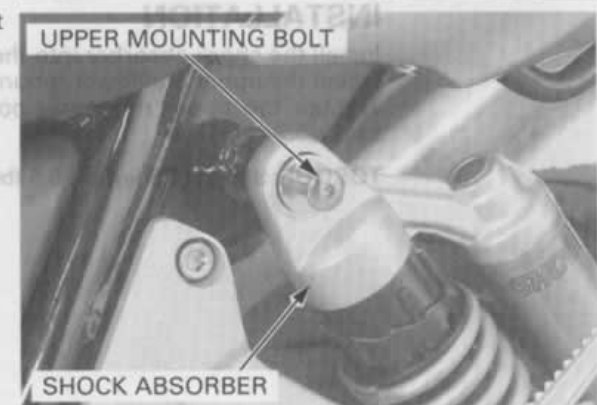
### REMOVAL

Support the motorcycle using a safety stand or a hoist, raise the rear wheel off the ground.

Remove the shock absorber lower mounting bolt/nut.



Remove the shock absorber upper mounting bolt and the shock absorber.



## INSPECTION

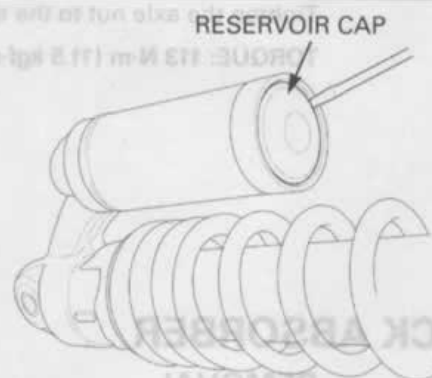
Check the damper unit and reservoir for leakage or other damage.  
Check the upper joint bushing for wear or damage.  
Replace the shock absorber assembly if necessary.  
Check the pivot bushing, pivot collar and dust seals for wear or damage.



DAMPER ROD

## SHOCK ABSORBER DISPOSAL PROCEDURE

Remove the damper reservoir cap.

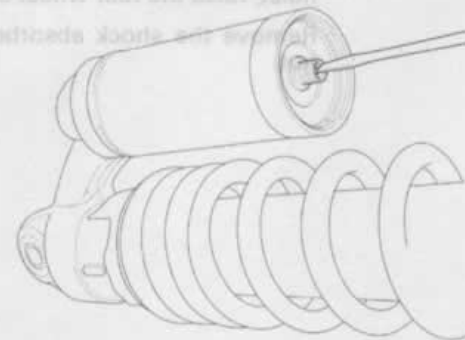


RESERVOIR CAP

Release the nitrogen from the reservoir by depressing the valve core.

## NOTICE

- Point the valve away from you to prevent debris getting in your eyes.
- Before disposal of the shock absorber, release the nitrogen by pressing the valve core. Then remove the valve from the shock absorber reservoir.



## INSTALLATION

Install the shock absorber into the frame.  
Install the upper and lower mounting bolt/nut.  
Tighten the upper mounting bolt to the specified torque.

**TORQUE: 9 N·m (0.9 kgf·m, 6.5 lbf·ft)**

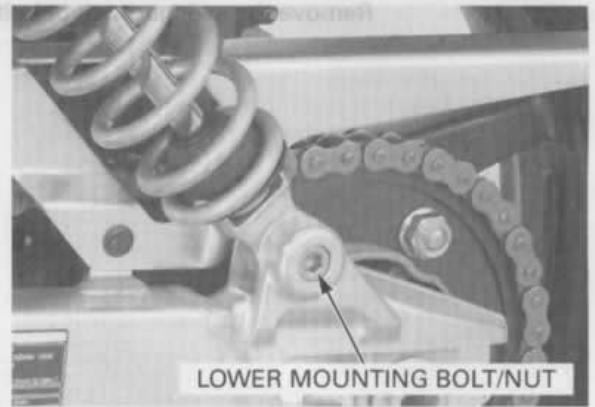
UPPER MOUNTING BOLT

SHOCK ABSORBER



Tighten the lower mounting nut to the specified torque.

**TORQUE: 37 N·m (3.8 kgf·m, 27 lbf·ft)**

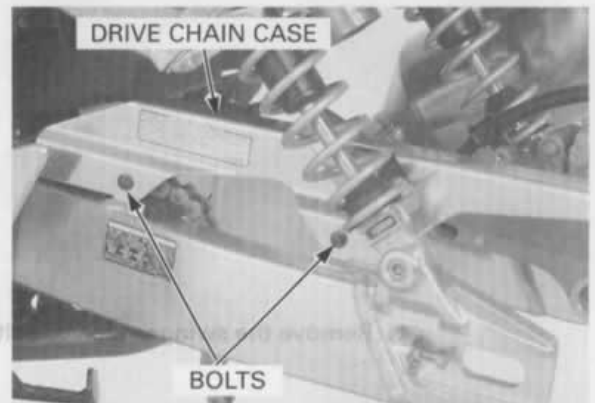


## SWINGARM

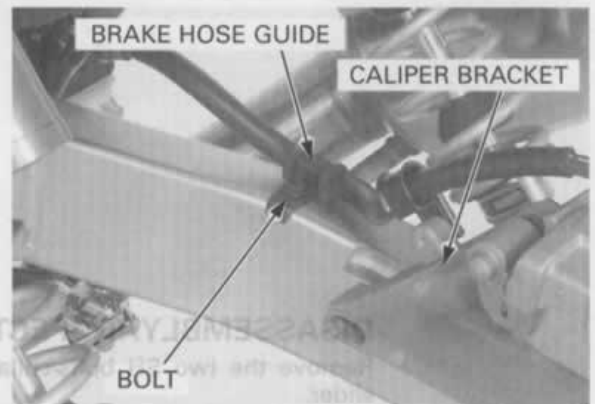
### REMOVAL

Remove the rear wheel (page 14-6).

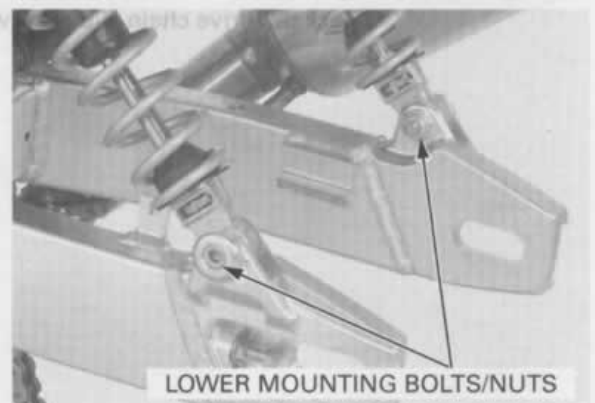
Remove the bolts and drive chain case.



Remove the brake hose clamp bolt, then remove the caliper bracket from the swingarm.



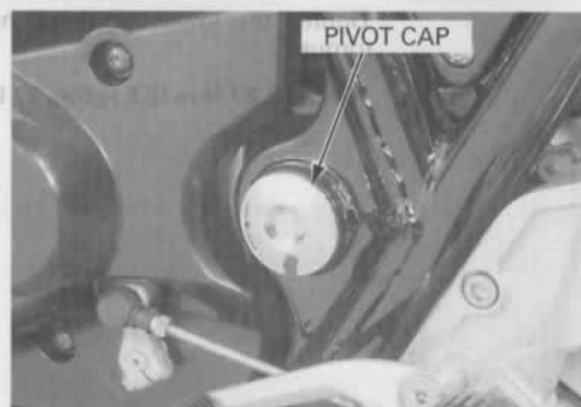
Remove the rear shock absorber lower mounting bolts and nuts.





## REAR WHEEL/SUSPENSION

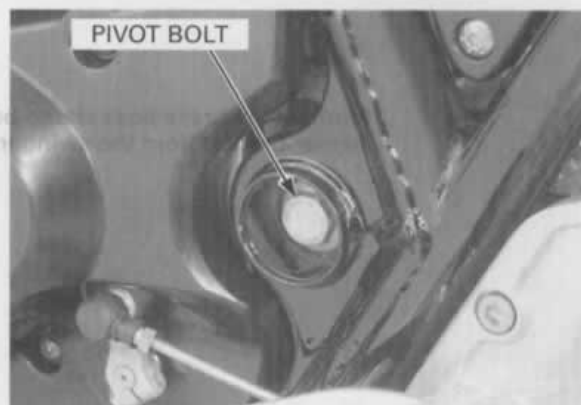
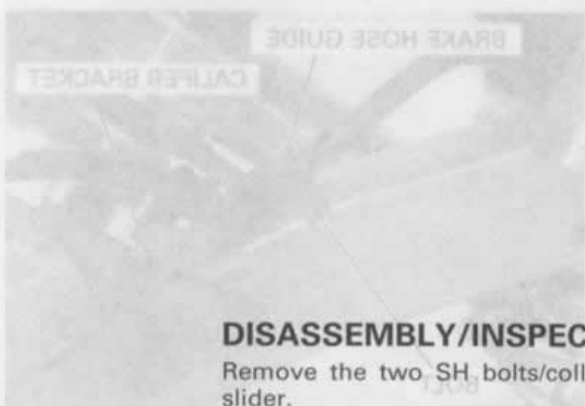
Remove the swingarm pivot bolt caps.



Remove the swingarm pivot nut.



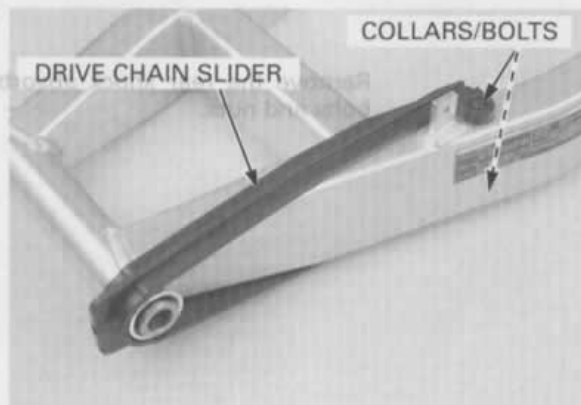
Remove the swingarm pivot bolt and swingarm.



### DISASSEMBLY/INSPECTION

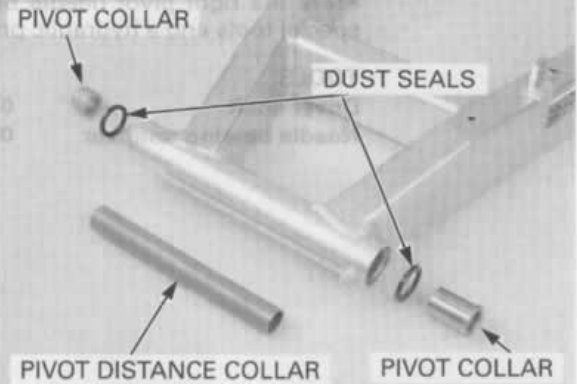
Remove the two SH bolts/collars and drive chain slider.

Check the drive chain slider for wear or damage.



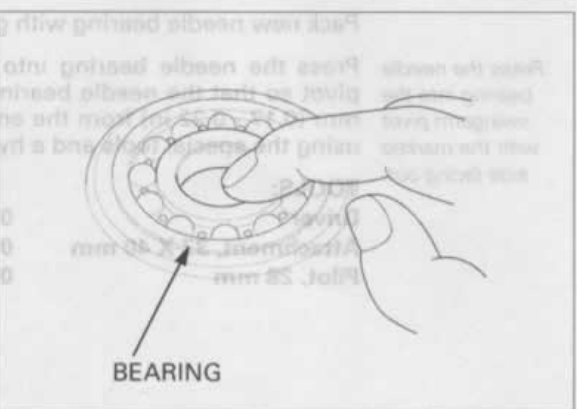
Remove the pivot collars and dust seals from the swingarm pivot.  
Remove the pivot distance collar.

Check the dust seals and collars for damage or fatigue.



Turn the inner race of right pivot bearings with your finger.  
The bearings should turn smoothly and quietly.  
Also check that the bearing outer race fits tightly in the hub.

Remove and discard the bearings if the races do not turn smoothly and quietly, or if they fit loosely in the pivot.



## PIVOT BEARING REPLACEMENT

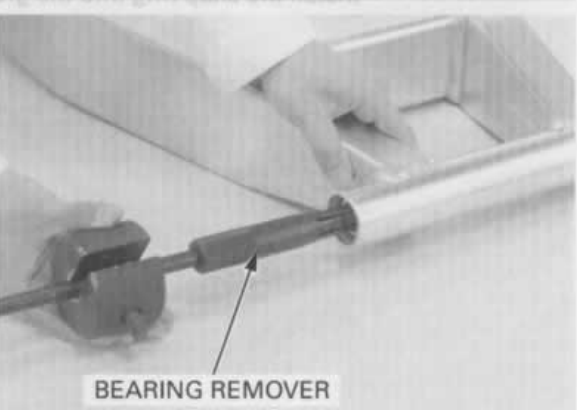
Remove the snap ring.



Remove the right pivot radial ball bearings using the special tools.

### TOOLS:

Bearing remover handle	07936-3710100
Bearing remover head	07936-3710600
Remover weight	07741-0010201



## REAR WHEEL/SUSPENSION

Press the right pivot needle bearing out using the special tools and a hydraulic press.

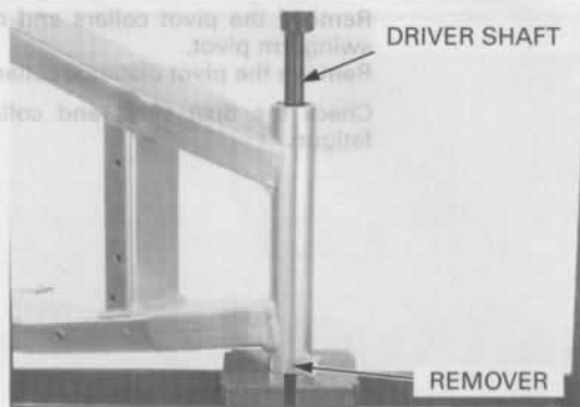
### TOOLS:

Driver shaft

07946-MJ00100

Needle bearing remover

07HMC-MR70100



Pack new needle bearing with grease.

*Press the needle bearing into the swingarm pivot with the marked side facing out.*

Press the needle bearing into the swingarm right pivot so that the needle bearing surface is 4.5 - 5.5 mm (0.17 - 0.22 in) from the end of swingarm pivot using the special tools and a hydraulic press.

### TOOLS:

Driver

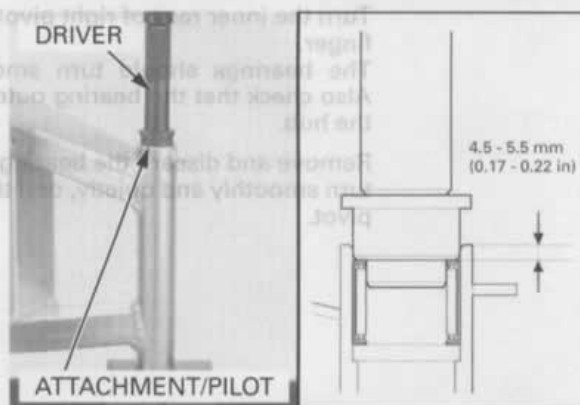
07749-0010000

Attachment, 37 X 40 mm

07746-0010200

Pilot, 28 mm

07746-0041100



Press the radial ball bearings in until it seats using the special tools and a hydraulic press.

### TOOLS:

Driver

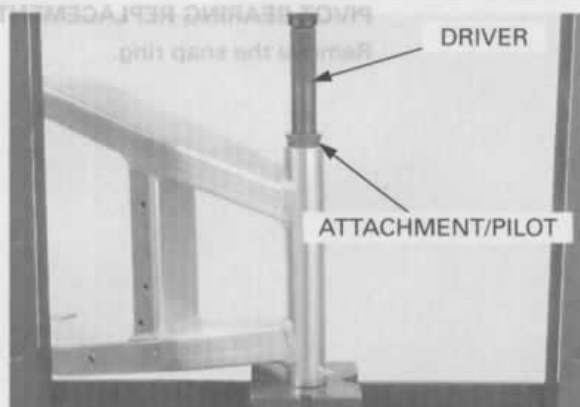
07749-0010000

Attachment, 37 X 40 mm

07746-0010200

Pilot, 20 mm

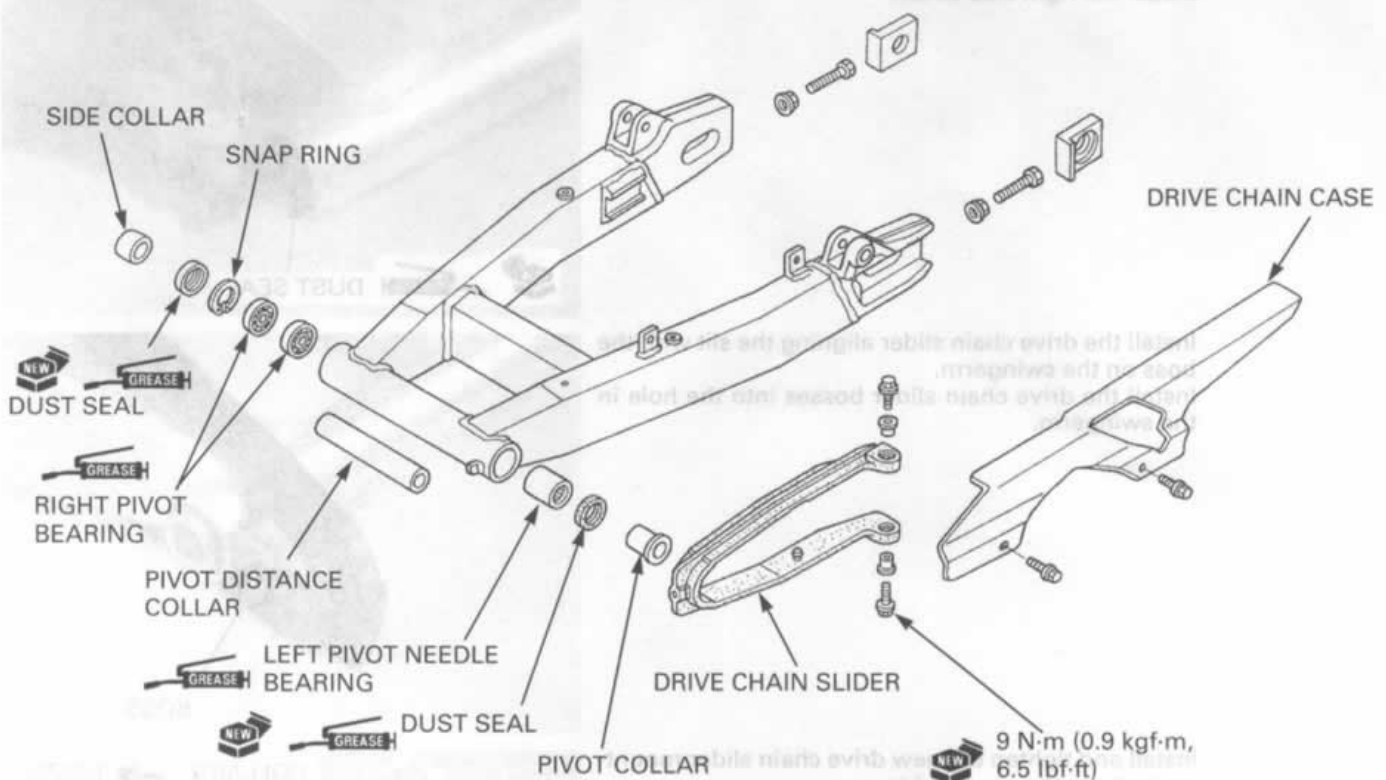
07746-0040500



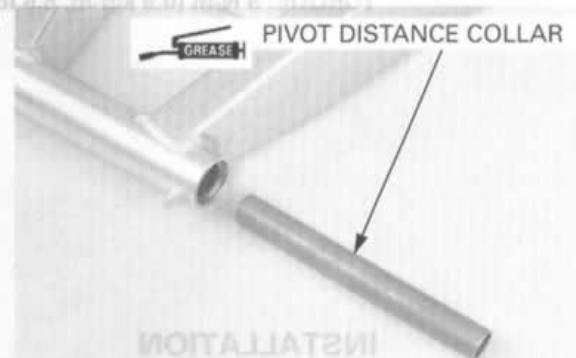
Install the snap ring into the groove securely.



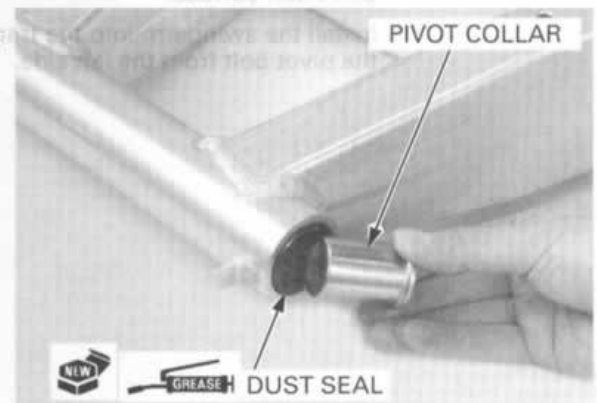
## ASSEMBLY



Apply grease the pivot distance collar and install it into the swingarm pivot.



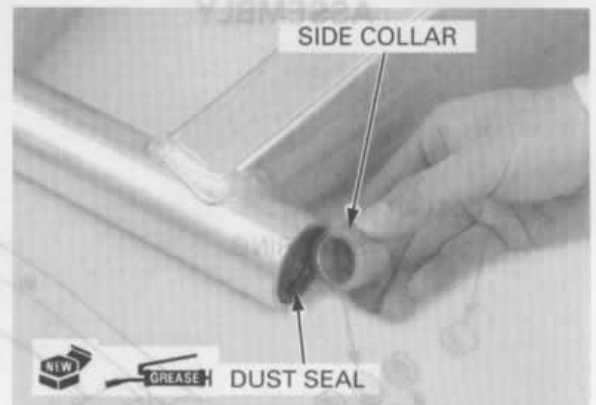
Pack the needle bearing with grease.  
Apply grease to the new dust seal lip, then install it into the left swingarm pivot.  
Install the pivot collar.



## REAR WHEEL/SUSPENSION

Apply grease to the new dust seal lip, then install the it into the right swingarm pivot.

Install the right side collar.

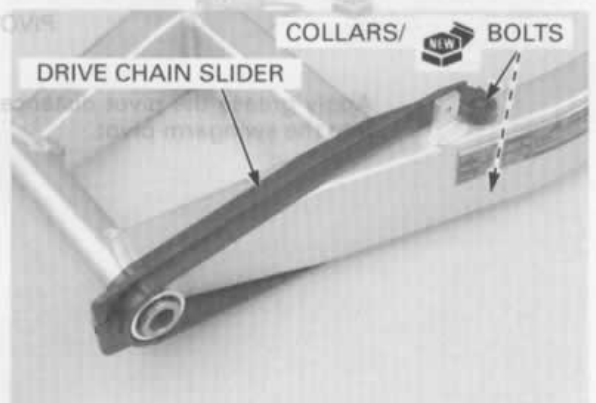


Install the drive chain slider aligning the slit with the boss on the swingarm. Install the drive chain slider bosses into the hole in the swingarm.



Install and tighten the new drive chain slider mounting bolts to the specified torque.

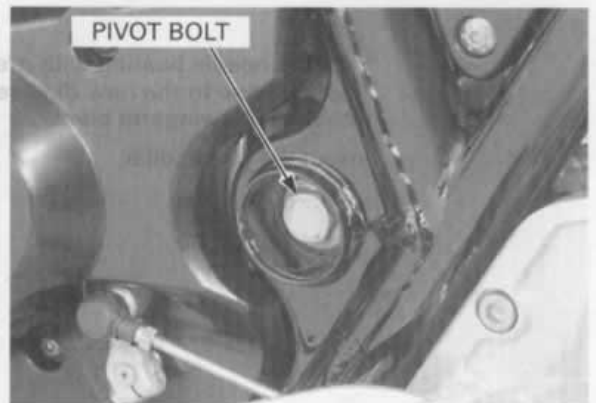
**TORQUE: 9 N·m (0.9 kgf·m, 6.5 lbf·ft)**



### INSTALLATION

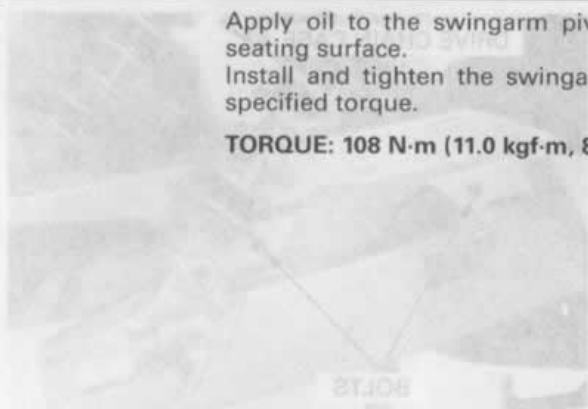
Apply thin layer of grease to the swingarm pivot bolt outer surface.

Install the swingarm into the frame, and then install the pivot bolt from the left side.

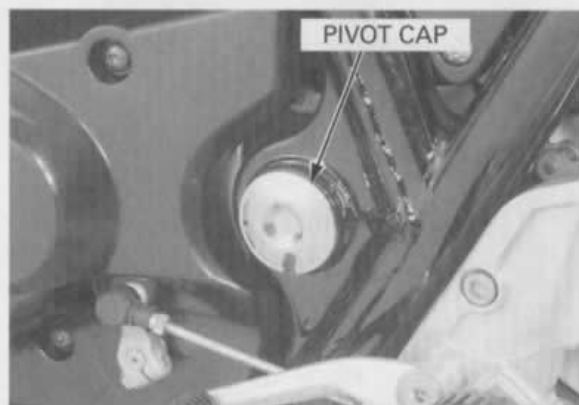


Apply oil to the swingarm pivot nut threads and seating surface.  
Install and tighten the swingarm pivot nut to the specified torque.

**TORQUE: 108 N·m (11.0 kgf·m, 80 lbf·ft)**

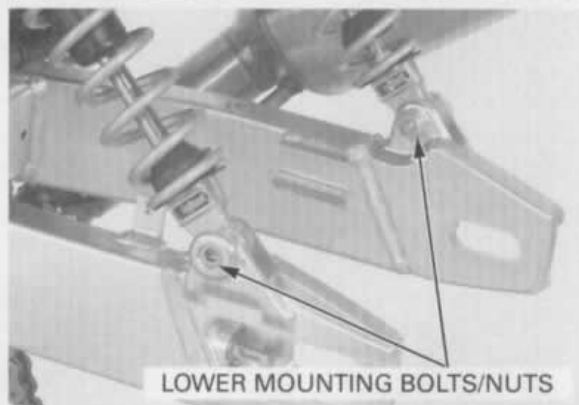


Install the swingarm pivot caps.



Install the rear shock absorbers onto the swingarm.  
Install and tighten the shock absorber lower mounting bolt/nut to the specified torque.

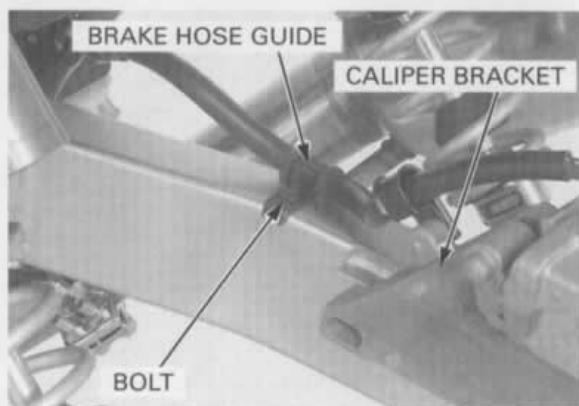
**TORQUE: 37 N·m (3.8 kgf·m, 27 lbf·ft)**



Route the brake hose properly, then install the rear brake caliper/bracket onto the boss of the swingarm.

Install the brake hose clamp onto the swingarm and tighten the bolt to the specified torque.

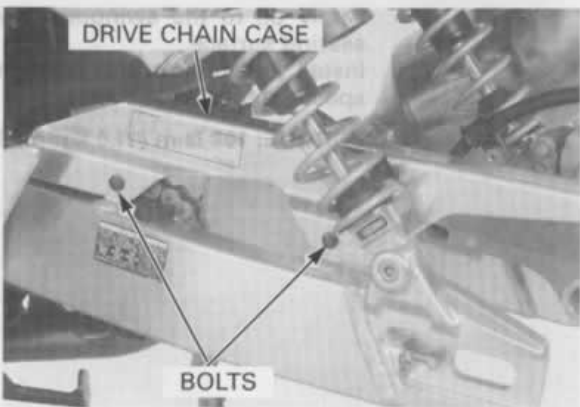
**TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)**



REAR WHEEL/SUSPENSION



Install the drive chain case and tighten the bolts.  
Install the rear wheel (page 14-12).



Install the swingarm pivot cap.



Install the rear shock absorber onto the swingarm.  
Install and tighten the shock absorber lower mounting bolt to the specified torque.  
TORQUE: 37 N·m (3.8 kgf-m, 27 lbf-ft)



Route the brake hose properly, then install the rear brake caliper/bracket onto the boss of the swingarm.  
Install the brake hose clamp onto the swingarm and tighten the bolt to the specified torque.  
TORQUE: 15 N·m (1.5 kgf-m, 8 lbf-ft)