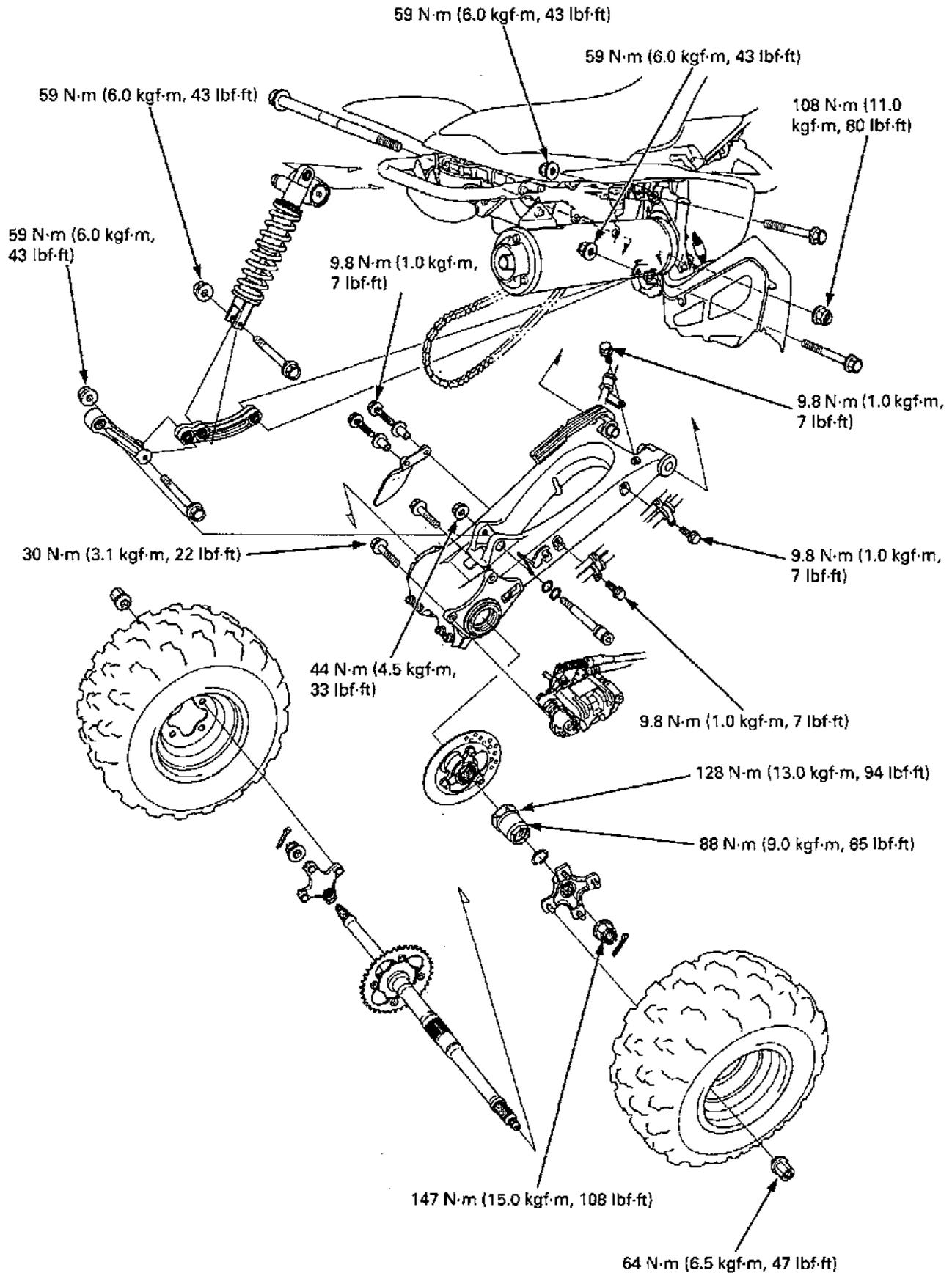


18. REAR WHEEL/SUSPENSION

SYSTEM COMPONENTS	18-2	REAR AXLE/BEARING HOLDER.....	18-7
SERVICE INFORMATION	18-3	REAR SHOCK ABSORBER	18-16
TROUBLESHOOTING	18-6	SHOCK LINKAGE.....	18-18
REAR WHEEL	18-7	SWINGARM	18-20

REAR WHEEL/SUSPENSION SYSTEM COMPONENTS



SERVICE INFORMATION

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.
- A jack or other support is required to support the vehicle.
- When using the lock nut wrench for the axle lock nuts, use a deflecting beam type torque wrench 20 inches long. The lock nut wrench increases the torque wrench's leverage, so the torque wrench reading will be less than the torque actually applied to the lock nut. The specification given is the actual torque applied to the lock nut, not the reading on the torque wrench. Do not over tighten the lock nut. The specification later in the text gives both actual and indicated.
- Use genuine Honda replacement bolts and nuts for all suspension pivots and mounting points.
- For tire information (page 17-11).
- For brake system service (page 19-2).

SPECIFICATIONS

Unit: mm (in)

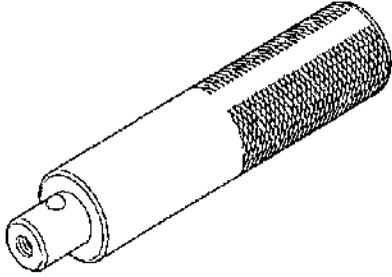
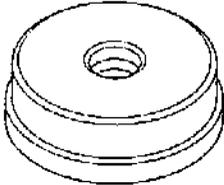
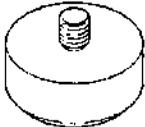
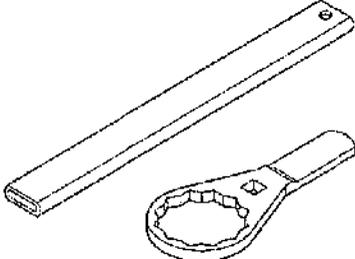
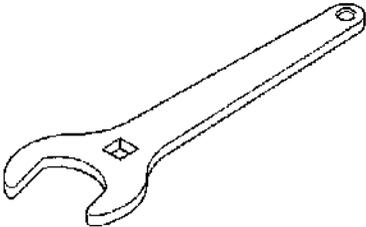
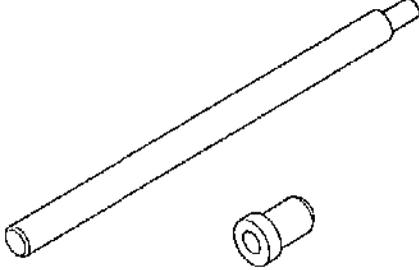
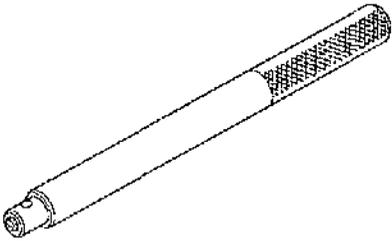
ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		-	4.0 (0.16)
Cold tire pressure ('04 - '05)	Standard	32.5 kPa (0.325 kgf/cm ² , 4.7 psi)	-
	Minimum	28.5 kPa (0.285 kgf/cm ² , 4.1 psi)	-
	Maximum	36.5 kPa (0.365 kgf/cm ² , 5.3 psi)	-
Cold tire pressure (After '05)	Standard	32.5 kPa (0.325 kgf/cm ² , 4.7 psi)	-
	Minimum	30.0 kPa (0.300 kgf/cm ² , 4.3 psi)	-
	Maximum	35.0 kPa (0.350 kgf/cm ² , 5.1 psi)	-
Axle runout		-	3.0 (0.12)
Drive chain	Slack	25 - 35 (1 - 1-7/16)	-
	Size/link ('04 - '05)	DID	DID520V6/94
		RK	RK520SMOZ10S/94
	Size/link (After '05)	DID	DID520V6/96
RK		RK520SMOZ10S/96	
Compression damping adjuster standard position	'04 - '05	26 ± 1 clicks out from full in	-
	After '05	8 ± 1 clicks out from full in	-
Rebound damping adjuster standard position	'04 - '05	1-3/4 turns out from full in	-
	After '05	1-1/8 ± 1/8 turns out from full in	-

REAR WHEEL/SUSPENSION

TORQUE VALUES

Rear wheel nut	64 N·m (6.5 kgf·m, 47 lbf·ft)	
Rear wheel hub nut	147 N·m (15.0 kgf·m, 108 lbf·ft)	Apply grease to the threads and seating surface. Castle nut: tighten to the specified torque and further tighten until its grooves aligns with the cotter pin hole.
Rear brake caliper bracket mounting bolt	30 N·m (3.1 kgf·m, 22 lbf·ft)	ALOC bolt: replace with a new one.
Drive chain guard bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	ALOC bolt: replace with a new one.
Axle inner lock nut	128 N·m (13.0 kgf·m, 94 lbf·ft)	Apply locking agent to the threads.
Axle outer lock nut	88 N·m (9.0 kgf·m, 65 lbf·ft)	Apply locking agent to the threads.
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	59 N·m (6.0 kgf·m, 43 lbf·ft)	
Rear shock absorber mounting nut	59 N·m (6.0 kgf·m, 43 lbf·ft)	
Shock link-to-swingarm nut	44 N·m (4.5 kgf·m, 33 lbf·ft)	
Shock arm-to-frame nut	59 N·m (6.0 kgf·m, 43 lbf·ft)	
Shock arm-to-shock link nut	59 N·m (6.0 kgf·m, 43 lbf·ft)	
Rear brake hose clamp bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	ALOC bolt: replace with a new one.
Rear brake hose guide bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	ALOC bolt: replace with a new one.
Parking brake cable clamp bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	ALOC bolt: replace with a new one.
Chain slider bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	ALOC bolt: replace with a new one.
Swingarm pivot nut	108 N·m (11.0 kgf·m, 80 lbf·ft)	Apply grease to the threads and seating surface.
Rear brake caliper stay stopper bolt	59 N·m (6.0 kgf·m, 43 lbf·ft)	Apply locking agent to the threads.

TOOLS

<p>Driver 07749-0010000</p> 	<p>Attachment, 24 x 26 mm 07746-0010700</p> 	<p>Attachment, 62 x 68 mm 07746-0010500</p> 
<p>Attachment, 35 mm I.D. 07746-0030400</p> 	<p>Pilot, 17 mm 07746-0040400</p> 	<p>Pilot, 40 mm 07746-0040900</p> 
<p>Lock nut wrench, 56 mm 07916-HA20000</p>  <p>or 07916-HA2010A (U.S.A. only)</p>	<p>Lock nut wrench, 45.5 mm 07916-1870101</p>  <p>or commercially available equivalent</p>	<p>Needle bearing remover 07946-KA50000</p> 
<p>Driver 07949-3710001</p> 		

REAR WHEEL/SUSPENSION

TROUBLESHOOTING

Rear wheel wobbling

- Bent rim
- Worn or damaged rear axle bearings
- Faulty rear tire
- Rear wheel hub nut not tightened properly
- Faulty swingarm pivot bearings

Rear wheel hard to turn

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

Soft suspension

- Weak shock absorber spring
- Faulty shock absorber damper
- Incorrect suspension adjustment

Stiff suspension

- Bent shock absorber damper rod
- Damaged rear suspension pivot bearings
- Incorrect suspension adjustment

Rear suspension noise

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

REAR WHEEL

REMOVAL

Loosen the wheel nuts.

Support the vehicle using a hoist or equivalent and raise the rear wheels off the ground.

Remove the wheel nuts and rear wheel.

For tire removal/installation and repair, refer to page 17-11.

INSTALLATION

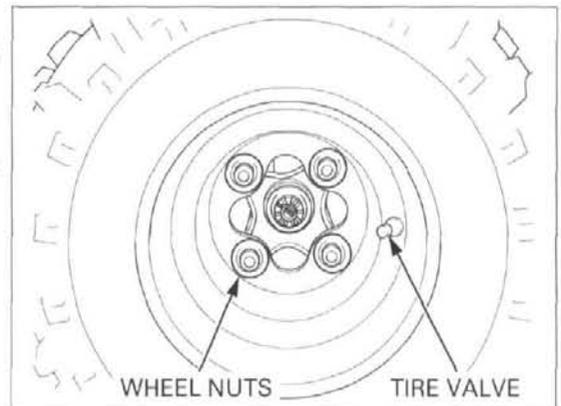
NOTE:

- Do not interchange the left and right tires.

Install the rear wheel with the tire valve facing out.

Install the wheel nuts with the tapered side facing inward and tighten them.

TORQUE: 64 N·m (6.5 kgf·m, 47 lbf·ft)

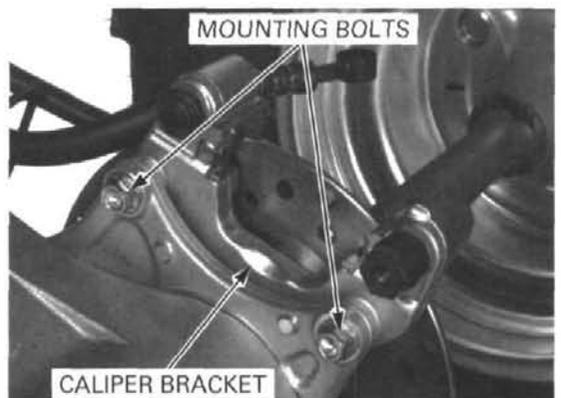


REAR AXLE/BEARING HOLDER

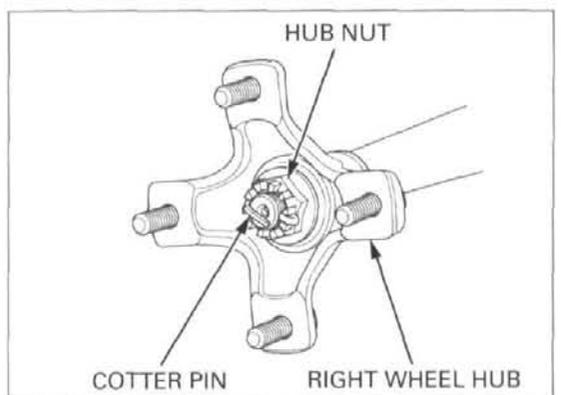
REMOVAL

Remove the following:

- rear brake caliper (page 19-22)
- two mounting bolts and caliper bracket



- right rear wheel (page 18-7).
- cotter pin
- hub nut
- right rear wheel hub

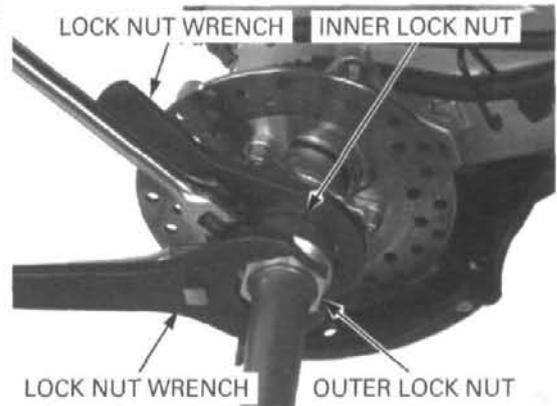


REAR WHEEL/SUSPENSION

The lock nut has left hand threads. Loosen the axle inner lock nut while holding the outer lock nut, using the special tools.

TOOLS:

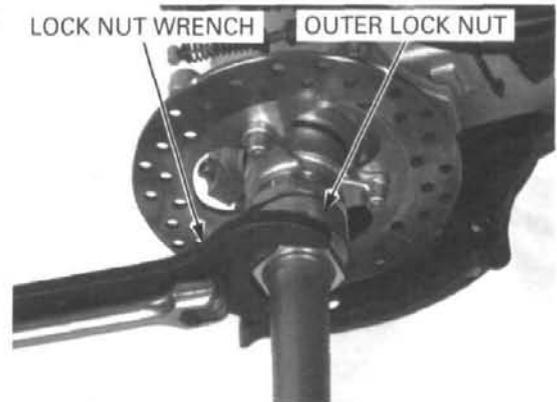
Lock nut wrench, 56 mm 07916-HA20000 or 07916-HA2010A (U.S.A. only)
Lock nut wrench, 45.5 mm 07916-1870101 or commercially available equivalent



The lock nut has left hand threads. Loosen the axle outer lock nut until the stopper ring can be removed, using the special tool.

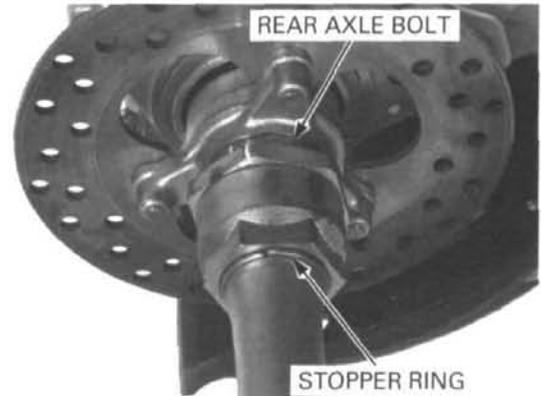
TOOL:

Lock nut wrench, 45.5 mm 07916-1870101 or commercially available equivalent

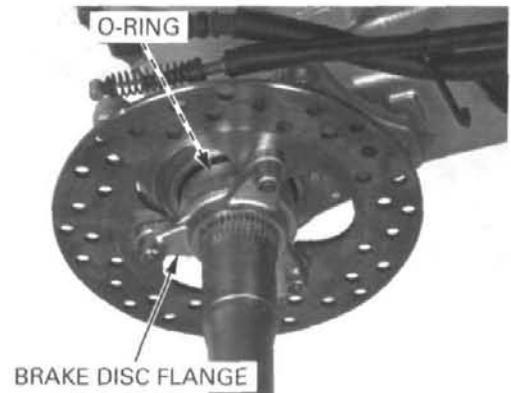


Remove the following:

- stopper ring
- rear axle bolt with the inner and outer lock nuts
- skid plate (page 3-8)



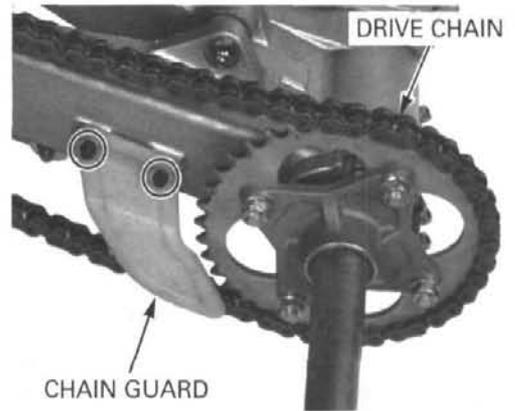
- brake disc flange with disc
- O-ring from the inside of the disc flange



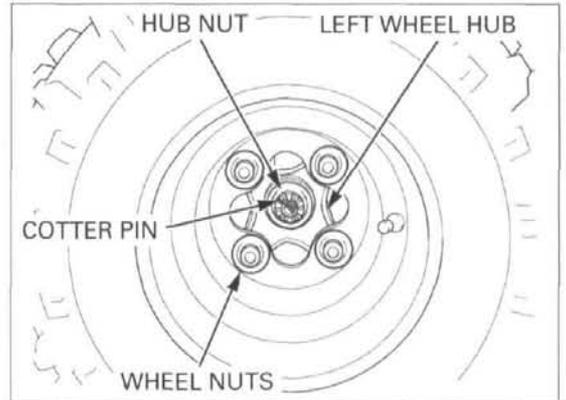
- two bolts, collars and drive chain guard

Turn the rear axle bearing holder to obtain maximum drive chain slack (page 4-22).

Remove the drive chain from the driven sprocket.



Remove the cotter pin from the left wheel hub nut. Loosen the hub nut. Remove the wheel nuts and left rear wheel. Remove the hub nut and left wheel hub.

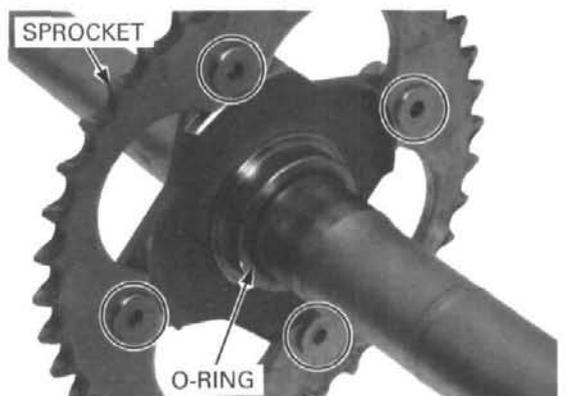


Remove the rear axle from the axle bearing holder in the swingarm by driving it from the right side with a rubber mallet.



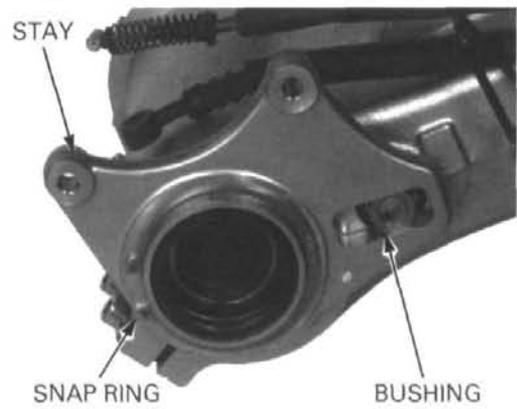
Remove the following:

- O-ring
- four nuts, washers, bolts and driven sprocket

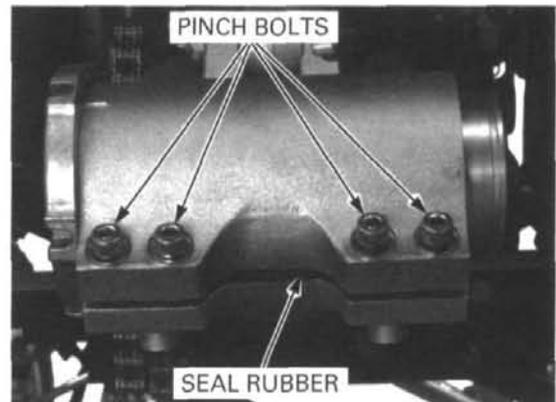


REAR WHEEL/SUSPENSION

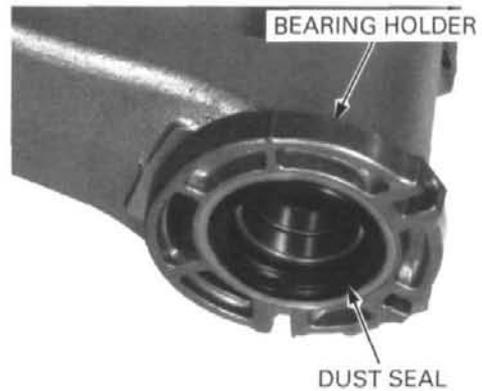
- snap ring
- caliper stay
- stopper bushing
- O-rings from the bearing holder and stay groove



- bearing holder pinch bolts
- seal rubber



- bearing holder
- O-rings from the bearing holder grooves
- dust seals

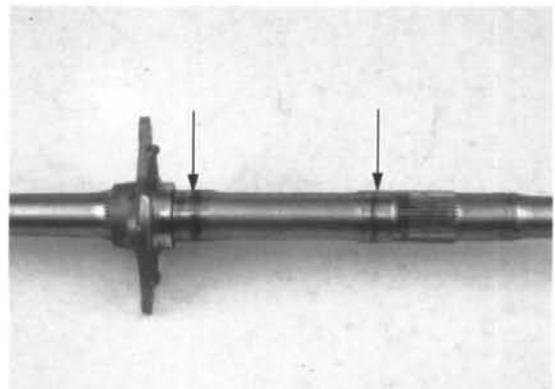


INSPECTION

Set the axle in v-blocks and measure the axle runout with a dial indicator.

Actual runout is 1/2 the total indicator reading.

SERVICE LIMIT: 3.0 mm (0.12 in)



Turn the inner race of each bearing with your finger. The bearing should turn smoothly and quietly. Also check that the bearing outer races fit tightly in the holder.

Replace the bearings in pairs.

Replace the bearings if the races do not turn smoothly and quietly or if they fit loosely in the holder.

BEARING REPLACEMENT

Drive the right (brake disc side) bearing out of the holder.

Remove the distance collar.

Drive the left bearings out of the holder.

Drive in a new right (brake disc side) bearing squarely with the markings facing up until it is fully seated.

Install the distance collar.

Drive in new left bearings squarely with the marks facing up until they are fully seated.

TOOLS:

Driver

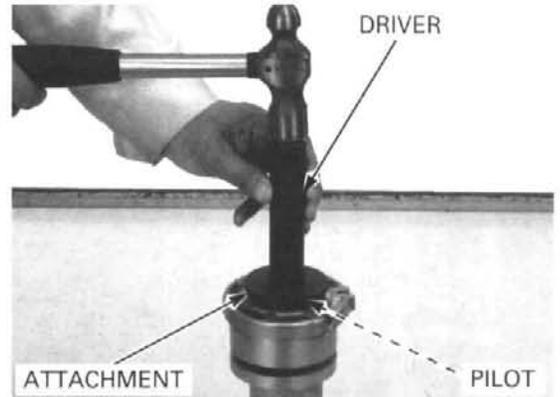
07749-0010000

Attachment, 62 x 68 mm

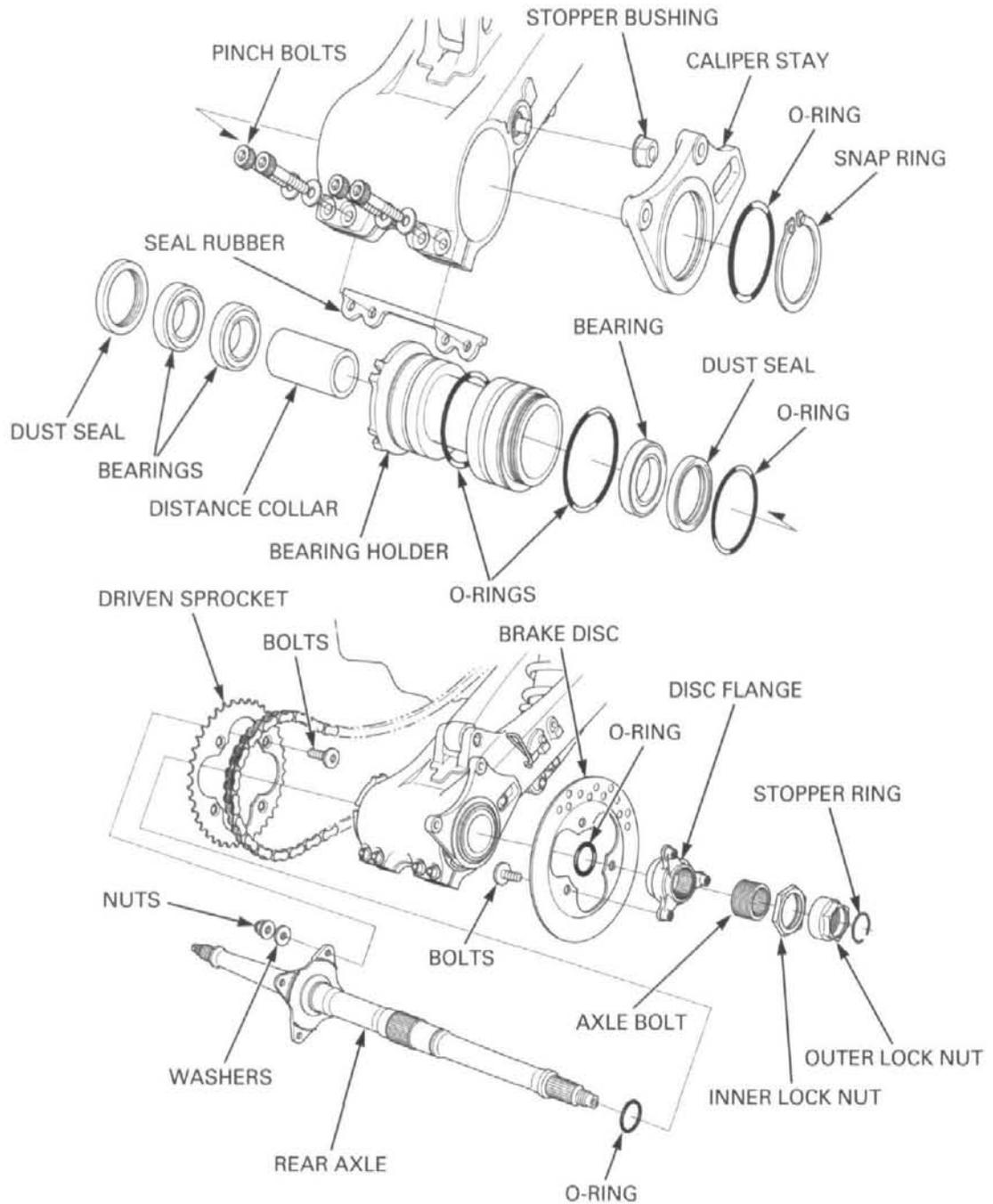
07746-0010500

Pilot, 40 mm

07746-0040900



REAR WHEEL/SUSPENSION INSTALLATION



Apply grease to new dust seal lips and install them into the bearing holder until they are flush with the holder end surfaces.



Clean the bearing holder outer surface and the swingarm inner surface.

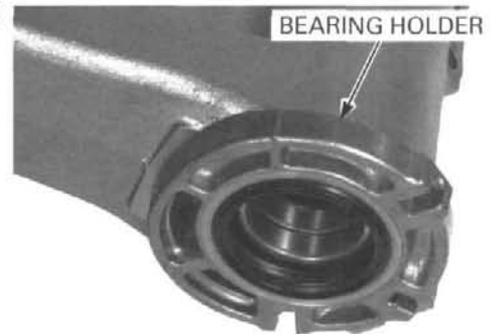
Coat new O-rings with oil and install them into the bearing holder grooves.

Apply grease to the bearing holder outer surface.



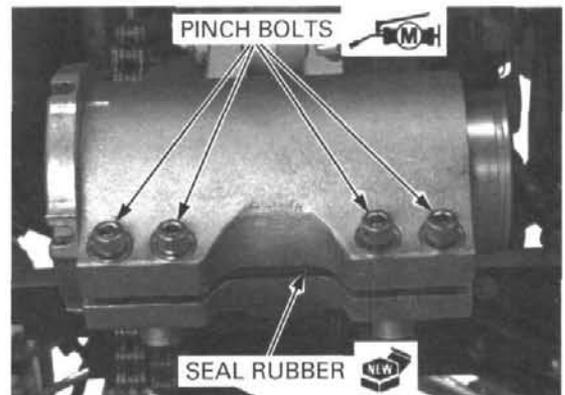
Be careful not to damage the O-rings.

Install the bearing holder into the swingarm until it is fully seated.



Install a new seal rubber into the swingarm.

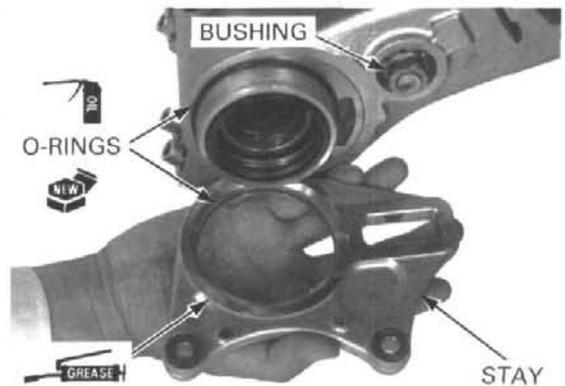
Apply molybdenum disulfide grease to the bearing holder pinch bolts and loosely install the pinch bolts.



Coat new O-rings with oil and install them into the caliper stay groove and onto the bearing holder.

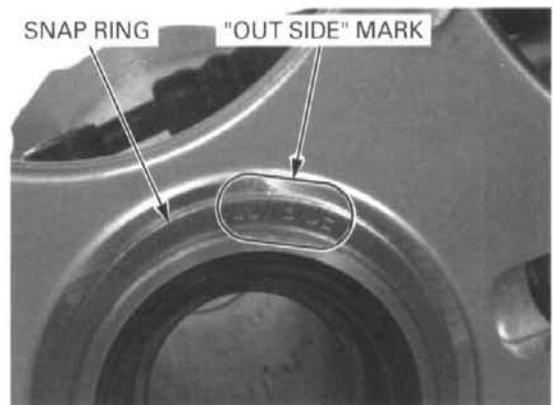
Install the bushing onto the stopper bolt.

Apply grease to the inner surface of the caliper stay and install it onto the bearing holder and bushing.



REAR WHEEL/SUSPENSION

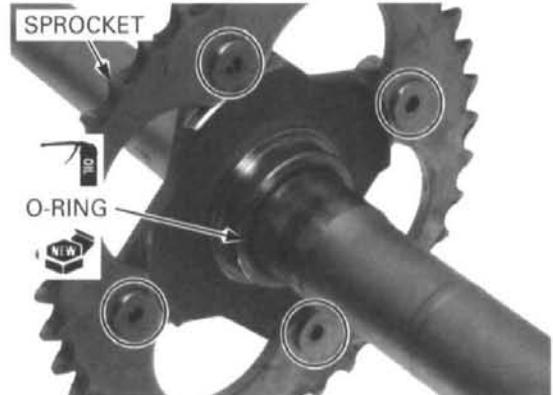
Install the snap ring into the bearing holder groove with the "OUT SIDE" mark facing out.



Install the driven sprocket with the four socket bolts, washers and nuts, and tighten the nuts.

TORQUE: 59 N-m (6.0 kgf-m, 43 lbf-ft)

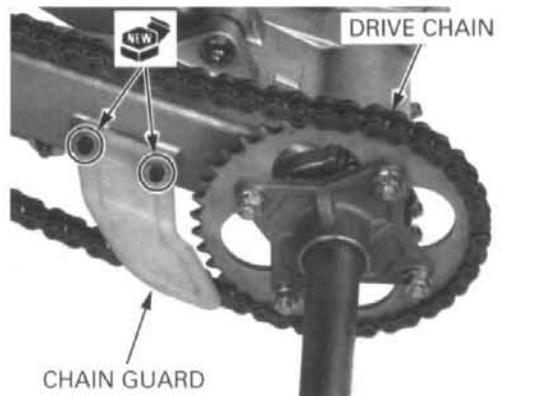
Coat a new O-ring with oil and install it between the driven sprocket flange and axle.



Install the rear axle into the bearing holder through the drive chain until it is fully seated. Install the drive chain over the driven sprocket.

Install the drive chain guard with the collars and new bolts, and tighten the bolts.

TORQUE: 9.8 N-m (1.0 kgf-m, 7 lbf-ft)



Apply grease to the hub nut threads and seating surface.

Install the left wheel hub and hub nut.

Install the left rear wheel with the tire valve facing out.

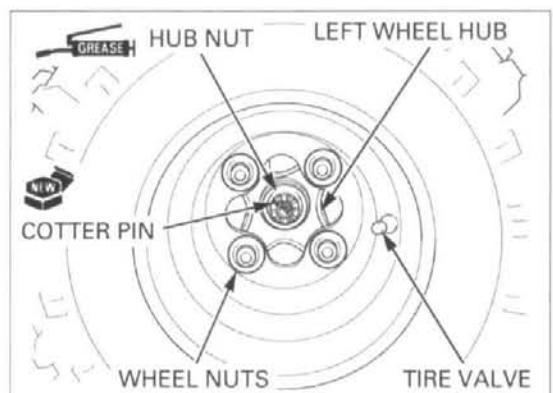
Install the wheel nuts with the tapered side facing inward and tighten them.

TORQUE: 64 N-m (6.5 kgf-m, 47 lbf-ft)

Tighten the hub nut to the specified torque and further tighten it until its grooves align with the cotter pin hole.

TORQUE: 147 N-m (15.0 kgf-m, 108 lbf-ft)

Install a new cotter pin.



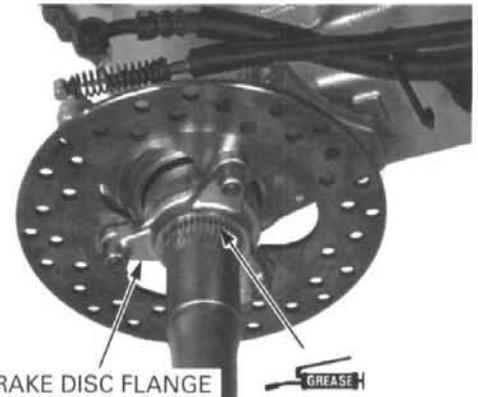
Coat a new O-ring with oil and install it into the brake disc flange groove.

Install the brake disc onto the flange with new bolts if it was removed.

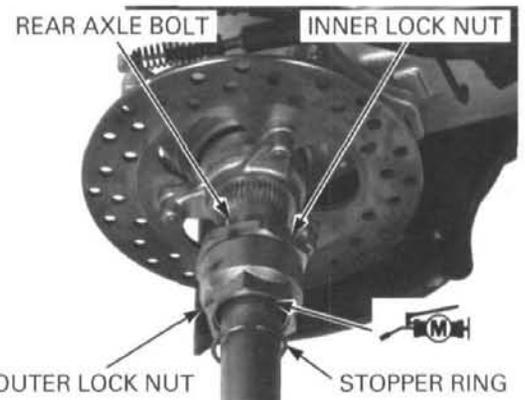
TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)



Apply grease to the rear axle splines.
Install the brake disc flange onto the rear axle.
Install the skid plate (page 3-8).



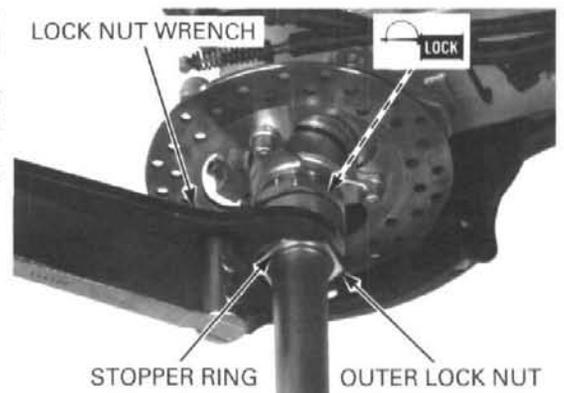
Apply molybdenum disulfide grease to the clip contacting area of the outer lock nut on the rear axle bolt.
Install the rear axle bolt with the inner and outer lock nuts.
Install the stopper ring but do not install it into the ring groove yet.



The lock nuts have left hand threads.

Turn the outer lock nut clockwise until the stopper ring groove is covered with the outer lock nut and apply locking agent to the axle bolt threads.
Turn the outer lock nut counterclockwise until the ring groove is visible and install the stopper ring into the groove.
Turn the outer lock nut clockwise to seat it against the stopper ring.
Tighten the outer lock nut using the special tool.

TOOL:
Lock nut wrench, 45.5 mm 07916-1870101 or commercially available equivalent



Refer to page 18-3 for torque wrench reading information.

TORQUE: Actual: 88 N·m (9.0 kgf·m, 65 lbf·ft)
Indicated: 79 N·m (8.1 kgf·m, 59 lbf·ft)

REAR WHEEL/SUSPENSION

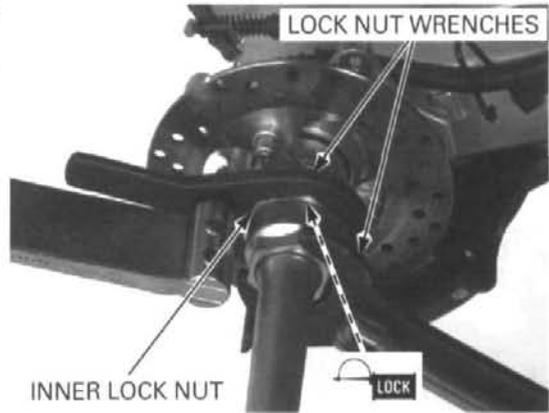
Apply locking agent to the inner lock nut area of the axle bolt threads.
Tighten the inner lock nut while holding the outer lock nut, using the special tools.

TOOLS:

Lock nut wrench, 56 mm 07916-HA20000 or 07916-HA2010A (U.S.A. only)
Lock nut wrench, 45.5 mm 07916-1870101 or commercially available equivalent

Refer to page 18-3 for torque wrench reading information.

TORQUE: Actual: 128 N·m (13.0 kgf·m, 94 lbf·ft)
Indicated: 115 N·m (11.7 kgf·m, 85 lbf·ft)

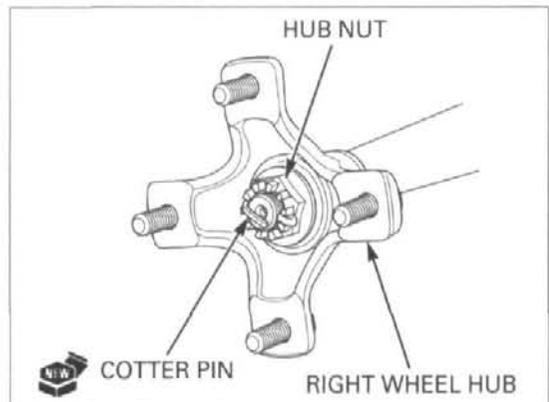


Apply grease to the hub nut threads and seating surface.
Install the right wheel hub and hub nut.
Tighten the hub nut to the specified torque and further tighten it until its grooves align with the cotter pin hole.

TORQUE: 147 N·m (15.0 kgf·m, 108 lbf·ft)

Install a new cotter pin.

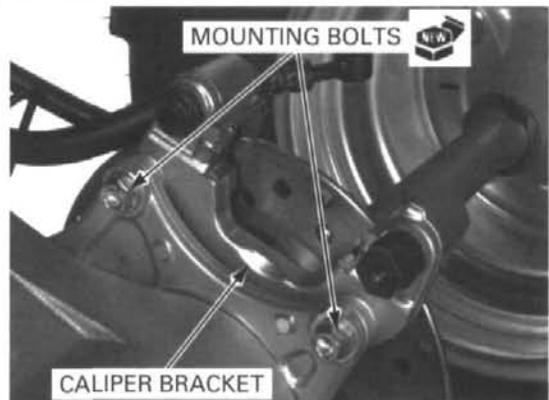
Install the right rear wheel (page 18-7).



Install the rear brake caliper bracket with new bolts and tighten the bolts.

TORQUE: 30 N·m (3.1 kgf·m, 22 lbf·ft)

Install the rear brake caliper (page 19-25).



REAR SHOCK ABSORBER

REMOVAL

Support the vehicle with a support block to raise the rear wheels off the ground.

Support the swingarm and remove the mounting nuts, bolts and the rear shock absorber.



INSPECTION

Remove the upper pivot collar and check the needle bearing for wear or damage.
 Replace the bearing if necessary.

Check the damper unit for leaks or other damage.
 Replace the shock absorber assembly if necessary.



BEARING REPLACEMENT

Remove the pivot collar and dust seals.

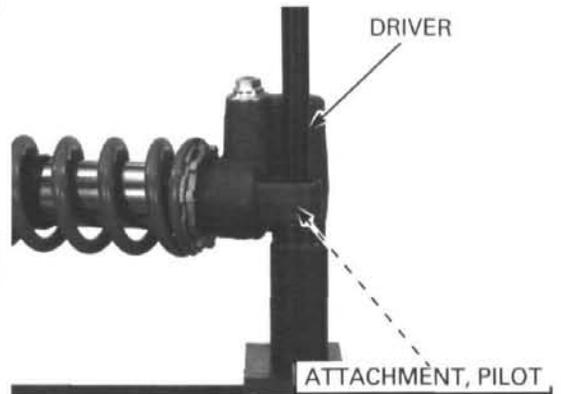


Press the needle bearing out of the shock absorber upper pivot using the special tool.

TOOLS:

- Driver** 07949-3710001
- Attachment, 24 x 26 mm** 07746-0010700
- Pilot, 17 mm** 07746-0040400

Apply grease to new needle bearing rollers.
 Press the needle bearing into the upper pivot until the depth from the outer surface is 5.0 – 5.5 mm (0.20 – 0.22 in), using the same special tools.



Apply grease to new dust seal lips and install them into the upper pivot until they are seated to the bearing.
 Install the pivot collar.



REAR WHEEL/SUSPENSION

INSTALLATION

Set the shock absorber onto the shock arm and into the frame, and install the mounting bolts from the right side.

Install the mounting nuts and tighten them.

TORQUE: 59 N·m (6.0 kgf·m, 43 lbf·ft)



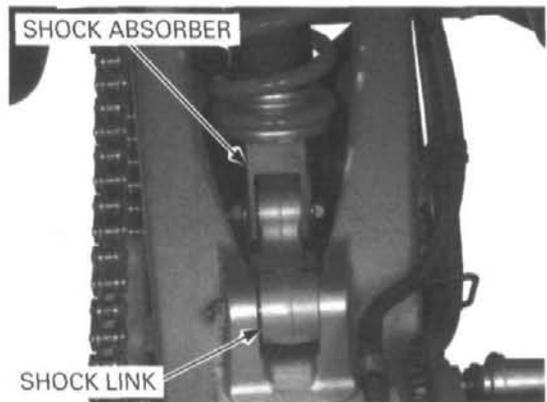
SHOCK LINKAGE

REMOVAL

Support the vehicle with a support block to raise the rear wheels off the ground.

Support the swingarm and remove the following:

- shock absorber lower mounting nut and bolt
- shock link-to-swingarm nut, bolt and O-rings
- shock link-to-shock arm nut and bolt
- shock link
- shock arm-to-frame bolt
- shock arm

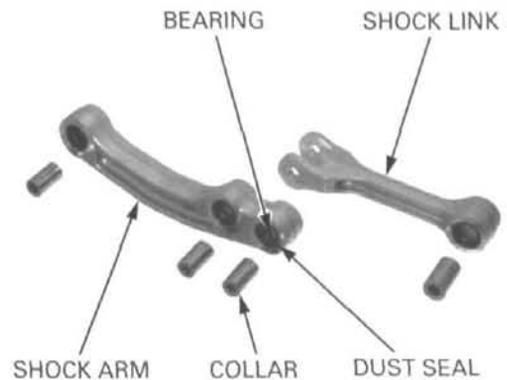


Remove the pivot collars from the shock arm and shock link.

Check the needle bearings for wear or damage.

BEARING REPLACEMENT

Remove the dust seals from the shock arm and shock link pivots



Press the needle bearings out of the shock arm pivots.

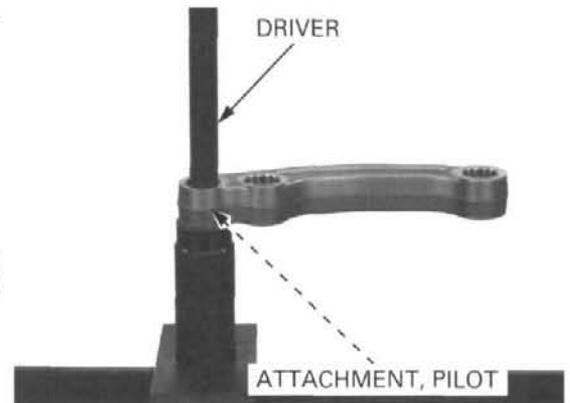
TOOLS:

Driver	07949-3710001
Attachment, 24 x 26 mm	07746-0010700
Pilot, 17 mm	07746-0040400

Apply grease to new needle bearing rollers.

Press in the bearing with the marked side facing up.

Press the needle bearing into the shock arm until the depth from the outer surface is 5.3 – 5.7 mm (0.21 – 0.22 in), using the same special tools.



Press the needle bearings out of the shock link pivot.

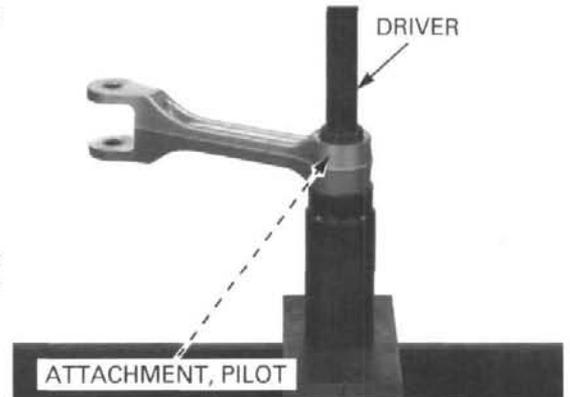
TOOLS:

Driver	07949-3710001
Attachment, 24 x 26 mm	07746-0010700
Pilot, 20 mm	07746-0040500

Apply grease to new needle bearing rollers.

Press in the bearing with the marked side facing up.

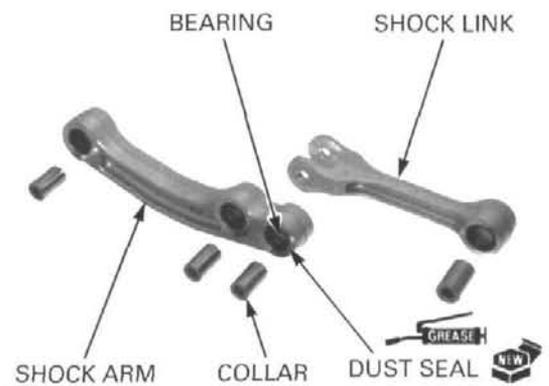
Press the needle bearing into the shock link until the depth from the outer surface is 5.3 – 5.7 mm (0.21 – 0.22 in), using the same special tools.



Apply grease to new dust seal lips and install them into the shock arm and shock link pivots until they are seated to the bearings.

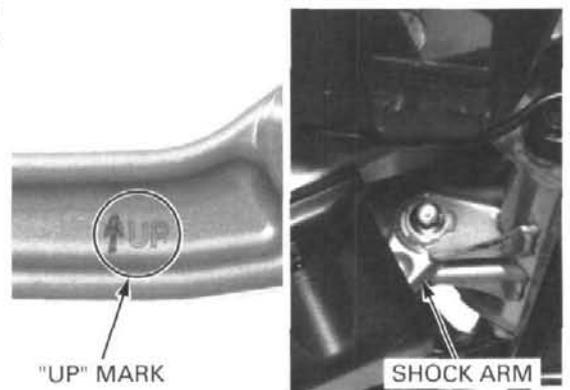
INSTALLATION

Install the pivot collars into the shock arm and shock link.



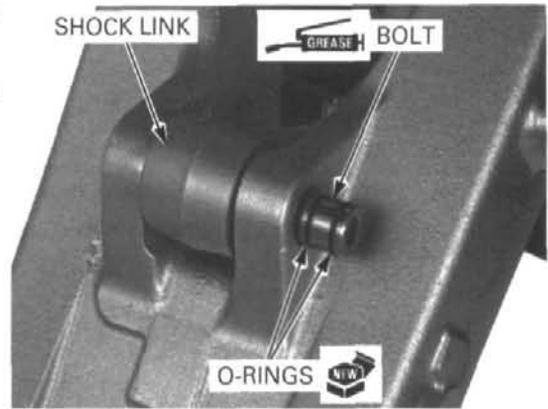
Note the installation direction of the shock linkage bolts. All bolts are installed from the right side.

Install the shock arm into the frame with the "UP" mark facing up and to the left side with the bolt and nut.



REAR WHEEL/SUSPENSION

Install new O-rings into the grooves in the shock link-to-swingarm bolt.
Apply grease to the pivot surface of the bolt.
Install the shock link into the swingarm with the bolt and nut.



Install the shock link onto the shock arm with the bolt and nut.
Install the shock absorber onto the shock arm with the bolt and nut.

Tighten the shock linkage and shock absorber mounting nuts.

TORQUE:

Rear shock absorber lower mounting nut:

59 N·m (6.0 kgf·m, 43 lbf·ft)

Shock link-to-swingarm nut:

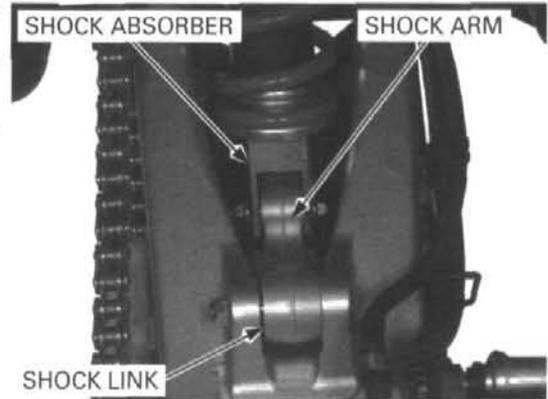
44 N·m (4.5 kgf·m, 33 lbf·ft)

Shock arm-to-frame nut:

59 N·m (6.0 kgf·m, 43 lbf·ft)

Shock arm-to-shock link nut:

59 N·m (6.0 kgf·m, 43 lbf·ft)

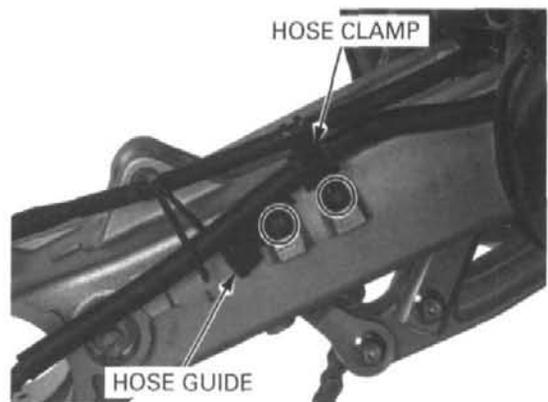


SWINGARM

REMOVAL

Remove the following:

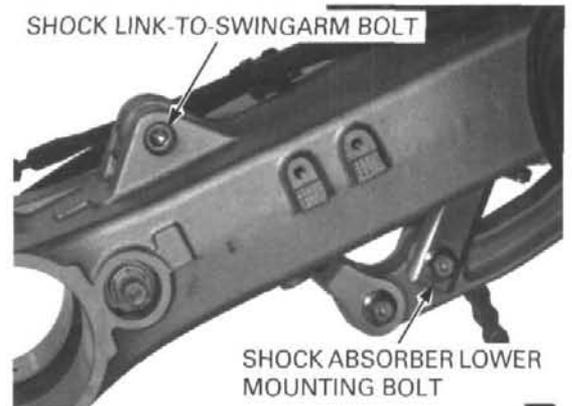
- rear axle and bearing holder (page 18-7)
- bolt and rear brake hose guide
- bolt and rear brake hose clamp



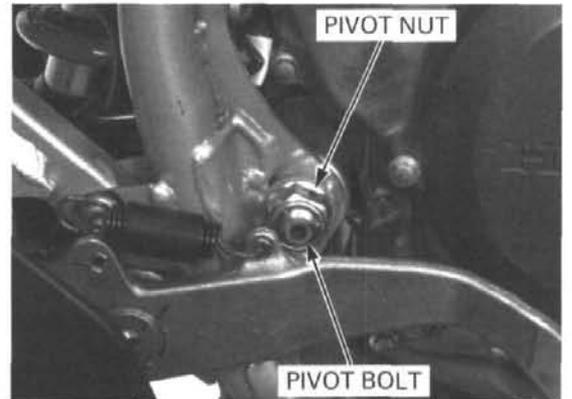
- bolt and rear brake hose clamp
- bolt and parking brake cable clamp



- shock absorber lower mounting nut and bolt
- shock link-to-swingarm nut and bolt

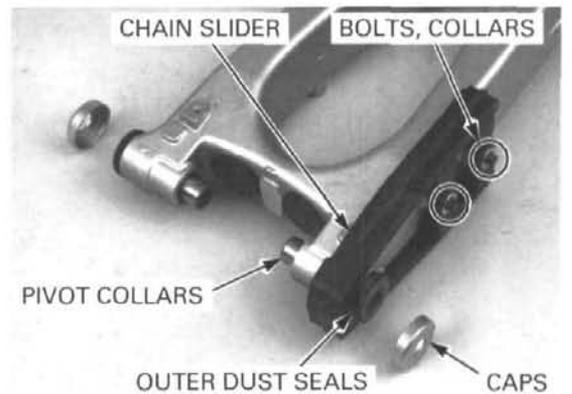


- rear brake pedal return spring from the upper hook
- swingarm pivot nut and bolt
- swingarm from the frame



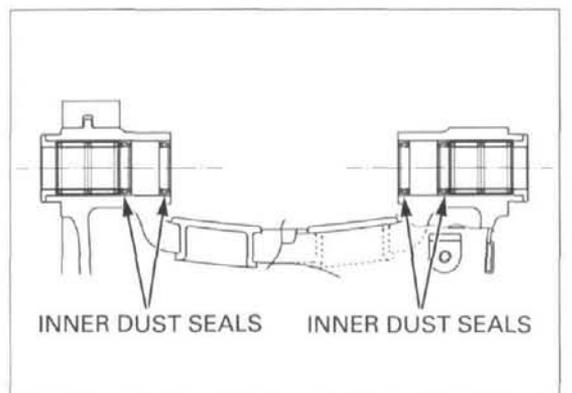
- dust seal caps
- outer dust seals
- pivot collars
- two bolts, collars and chain slider if necessary

Check the needle bearings for wear or damage.



BEARING REPLACEMENT

Remove the inner dust seals from the swingarm pivots.

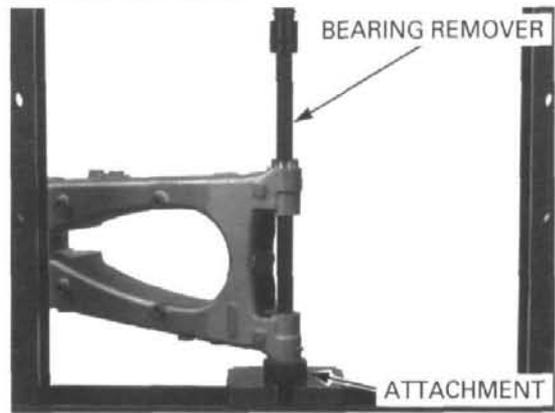


REAR WHEEL/SUSPENSION

Press the needle bearing and thrust bushing out of the swingarm pivot using the special tools.

TOOLS:

Needle bearing remover 07946-KA50000
Attachment, 35 mm I.D. 07746-0030400



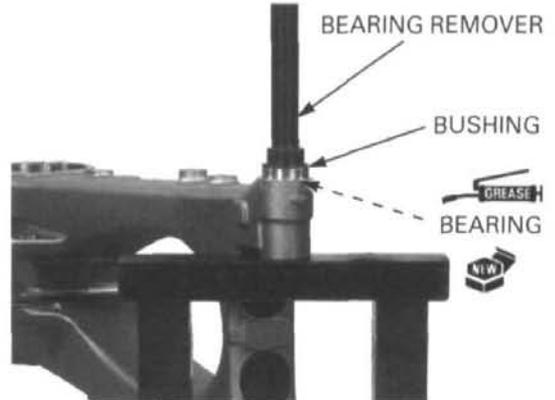
Apply 3 g (0.1 oz) of grease to each new needle bearing.

Press in the bearing with the marked side facing up.

Press the needle bearing and thrust bushing into the swingarm pivot until the bushing is fully seated.

TOOL:

Needle bearing remover 07946-KA50000

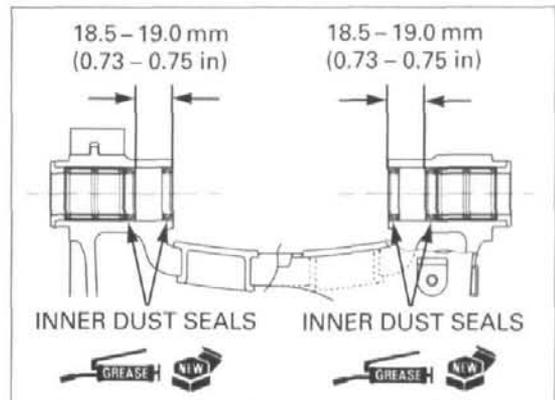


Apply grease to new inner dust seal lips. Install the inner dust seals (inside) into the swingarm pivots until the depth from the pivot surface is 18.5 – 19.0 mm (0.73 – 0.75 in) using the special tool.

TOOL:

Needle bearing remover 07946-KA50000

Install the inner dust seals (outside) into the swingarm pivots until they are flush with the pivot surfaces.



INSTALLATION

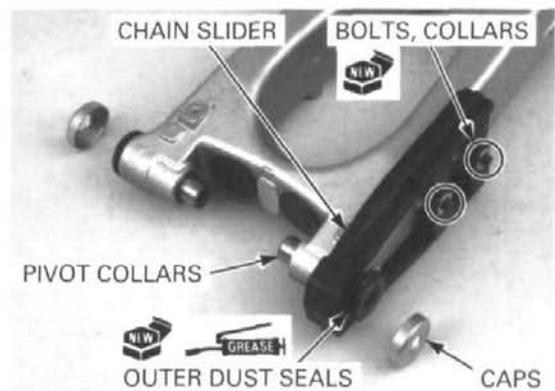
Install the chain slider with the collars and new bolts, and tighten the bolts if they were removed.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)

Install the pivot collars.

Apply grease to new outer dust seal lips.

Install the outer dust seals onto the swingarm pivots with the lips side facing out, and install the seal caps onto the dust seals.

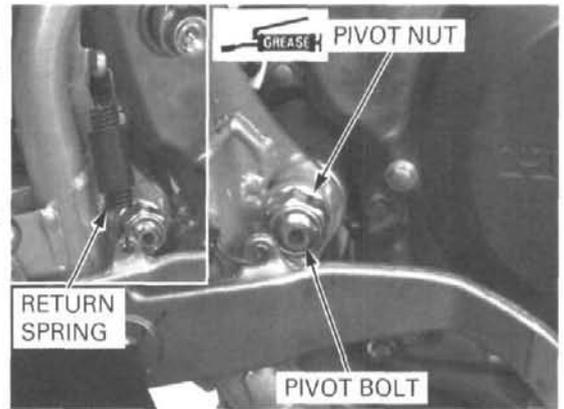


Be careful not to drop the dust seal caps.

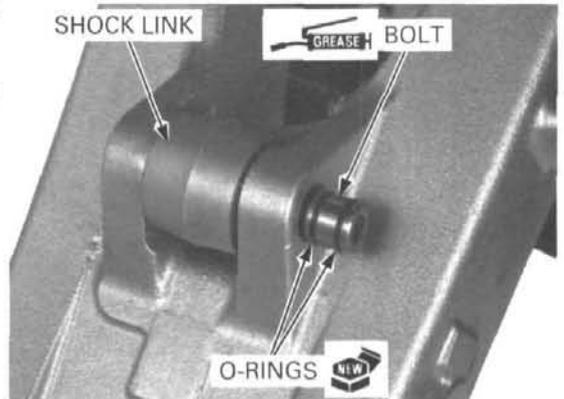
Install the swingarm between the frame and engine, and insert the pivot bolt from the left side. Apply grease to the pivot nut threads and seating surface. Install the pivot nut and tighten it.

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

Hook the brake pedal return spring properly as shown.



Install new O-rings into the grooves in the shock link-to-swingarm bolt. Apply grease to the pivot surface of the bolt. Install the shock link into the swingarm with the bolt and nut.



Install the shock absorber onto the shock arm with the bolt and nut.

Tighten the shock absorber lower mounting nut and shock link-to-swingarm nut.

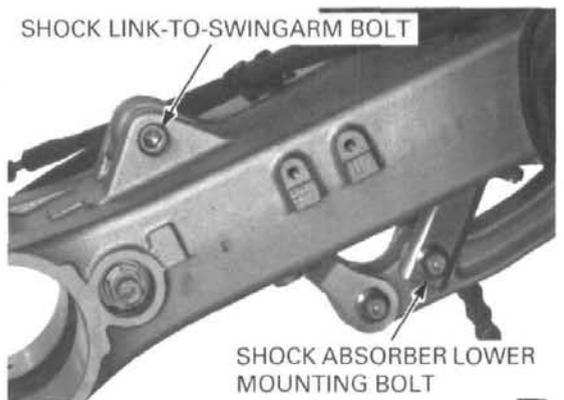
TORQUE:

Shock absorber lower mounting nut:

59 N·m (6.0 kgf·m, 43 lbf·ft)

Shock link-to-swingarm nut:

44 N·m (4.5 kgf·m, 33 lbf·ft)

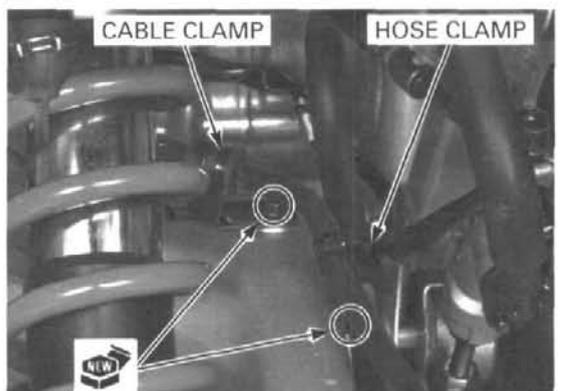


Install the parking brake cable clamp with a new bolt and tighten the bolt.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)

Install the rear brake hose clamp with a new bolt and tighten the bolt.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)



REAR WHEEL/SUSPENSION

Install the rear brake hose clamp with a new bolt and tighten the bolt.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)

Install the rear brake hose guide with a new bolt and tighten the bolt.

TORQUE: 9.8 N·m (1.0 kgf·m, 7 lbf·ft)

Install the rear axle bearing holder and rear axle (page 18-12).

