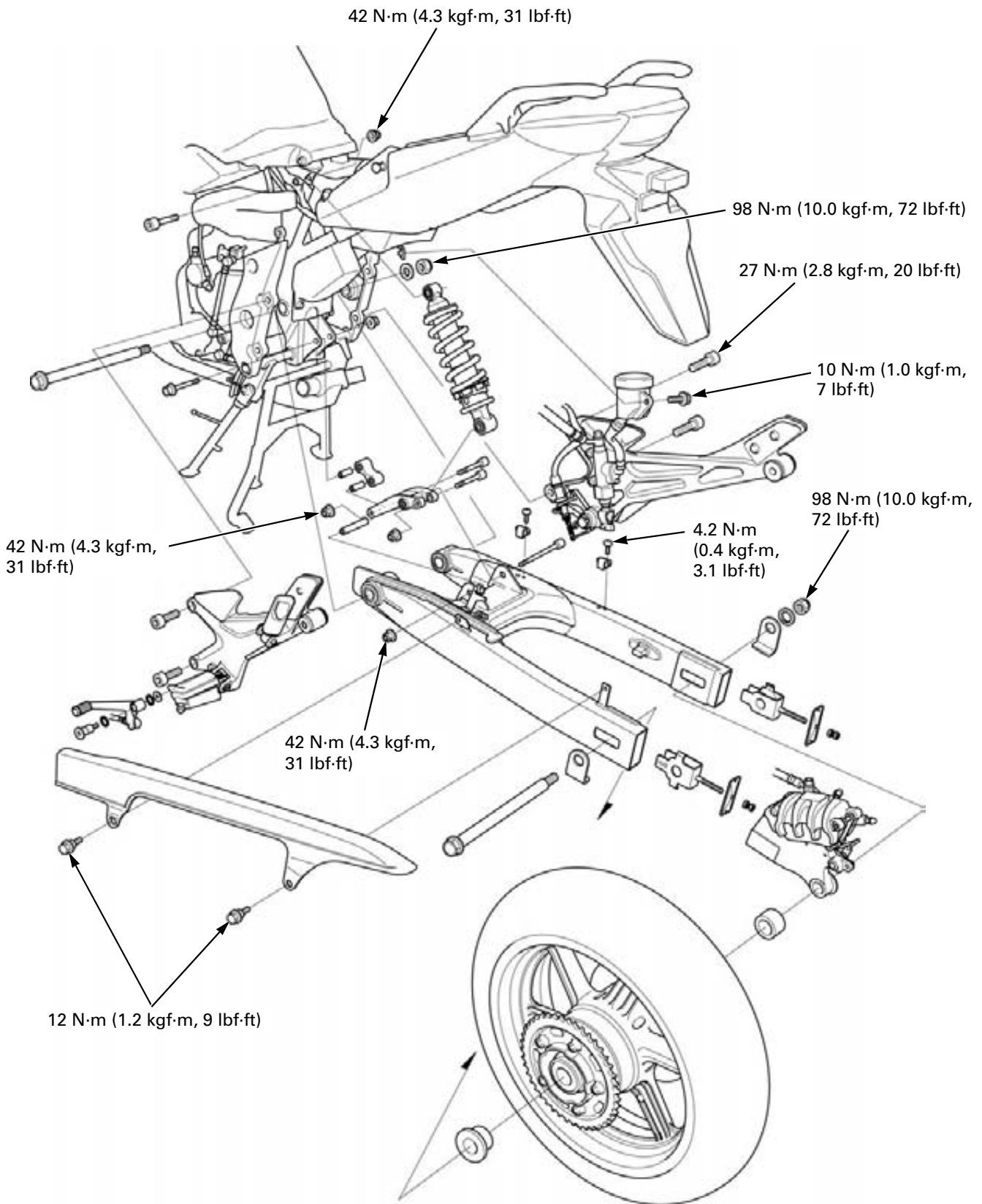


15. REAR WHEEL/SUSPENSION

SYSTEM COMPONENTS	15-2	REAR WHEEL.....	15-6
SERVICE INFORMATION	15-3	SHOCK ABSORBER.....	15-13
TROUBLESHOOTING	15-5	SWINGARM/SHOCK LINKAGE.....	15-15

REAR WHEEL/SUSPENSION SYSTEM COMPONENTS



SERVICE INFORMATION

GENERAL

- A hoist or equivalent is required to support the motorcycle when servicing the rear wheel and suspension.
- A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.
- 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 15-14).
- Use only genuine Honda replacement bolts and nuts for all suspension pivot and mounting points; ordinary bolts lack adequate strength for these applications. Also take note of the installation direction of these bolts since they must be installed correctly.
- Riding on damaged rims impairs safe operation of the vehicle.
- Use only tires marked "TUBELESS" and tubeless valves on rim marked "TUBELESS TIRE APPLICABLE".
- Refer to page 16-2 for hydraulic brake system service.
- Refer to page 4-21 for drive chain information.

SPECIFICATIONS

Unit: mm (in)



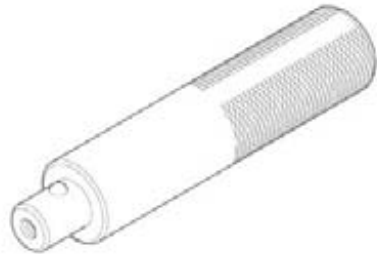
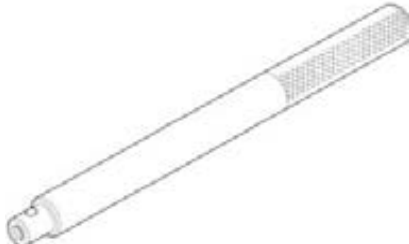








ITEM		STANDARD		SERVICE LIMIT
Minimum tire tread depth		-		2.0 (0.08)
Cold tire pressure	Driver only	290 kPa (2.90 kgf/cm ² , 42 psi)		-
	Driver and passenger	290 kPa (2.90 kgf/cm ² , 42 psi)		-
Axle runout		-		0.2 (0.01)
Wheel rim runout	Radial	-		2.0 (0.08)
	Axial	-		2.0 (0.08)
Wheel balance weight		-		60 g (2.1 oz) max.
Drive chain	Size/link	DID	DID50VA8-120LE	-
		RK	RK50HFOZ5-120LE	-
	Slack	20 – 30 (4/5 – 1-1/5)		-
Shock absorber spring pre-load adjuster standard position		Position 3		-



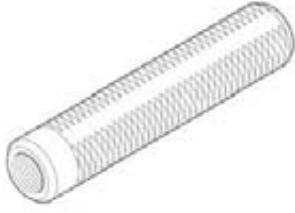


TORQUE VALUES

Drive chain case mounting bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)	
Rear axle nut	98 N·m (10.0 kgf·m, 72 lbf·ft)	U-nut
Rear brake disc bolt	42 N·m (4.3 kgf·m, 31 lbf·ft)	ALOC bolt; replace with new one.
Driven sprocket nut	108 N·m (11.0 kgf·m, 80 lbf·ft)	
Shock absorber mounting nut	42 N·m (4.3 kgf·m, 31 lbf·ft)	U-nut
Shock arm nut	42 N·m (4.3 kgf·m, 31 lbf·ft)	U-nut
Shock link-to-frame nut	42 N·m (4.3 kgf·m, 31 lbf·ft)	U-nut
Swingarm pivot nut	98 N·m (10.0 kgf·m, 72 lbf·ft)	U-nut
Drive chain slider screw	6 N·m (0.6 kgf·m, 4.4 lbf·ft)	
Rear brake hose guide screw	4.2 N·m (0.4 kgf·m, 3.1 lbf·ft)	
Gearshift pedal pivot bolt	27 N·m (2.8 kgf·m, 20 lbf·ft)	
Wheel speed sensor pulser ring mounting bolt	7 N·m (0.7 kgf·m, 5.2 lbf·ft)	ALOC bolt; replace with new one.

REAR WHEEL/SUSPENSION

TOOLS

<p>Bearing remover shaft 07GGD-0010100</p> 	<p>Bearing remover head, 20 mm 07746-0050600</p> 	<p>Driver 07749-0010000</p> 
<p>Driver 07949-3710001</p> 	<p>Attachment, 22 x 24 mm 07746-0010800</p> 	<p>Attachment, 28 x 30 mm 07946-1870100</p> 
<p>Attachment, 32 x 35 mm 07746-0010100</p> 	<p>Attachment, 42 x 47 mm 07746-0010300</p> 	<p>Attachment, 52 x 55 mm 07746-0010400</p> 
<p>Attachment, 37 mm 07ZMD-MBW0200</p> 	<p>Pilot, 17 mm 07746-0040400</p> 	<p>Pilot, 20 mm 07746-0040500</p> 

<p>Pilot, 28 mm 07746-0041100</p> 	<p>Bearing remover shaft, 17 mm 07936-3710300</p> 	<p>Remover shaft handle 07936-3710100</p> 
<p>Remover weight 07741-0010201</p> 	<p>Attachment, 34 mm 07ZMD-MBW0100</p> 	

TROUBLESHOOTING

Rear wheel wobbles

- Bent rim
- Unbalanced tire and wheel
- Worn wheel bearings
- Faulty swingarm pivot bearings
- Bent frame or swingarm
- Improperly tightened axle fasteners
- Faulty rear tire

Wheel turns hard

- Faulty wheel bearings
- Bent axle
- Brake drag (page 16-6)
- Drive chain too tight (page 4-21)

Soft suspension

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

Stiff suspension

- High tire pressure
- Incorrect suspension adjustment
- Bent shock absorber damper rod
- Damaged suspension or swingarm pivot bearings
- Improperly tightened swingarm pivot

Rear suspension noise

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

REAR WHEEL/SUSPENSION

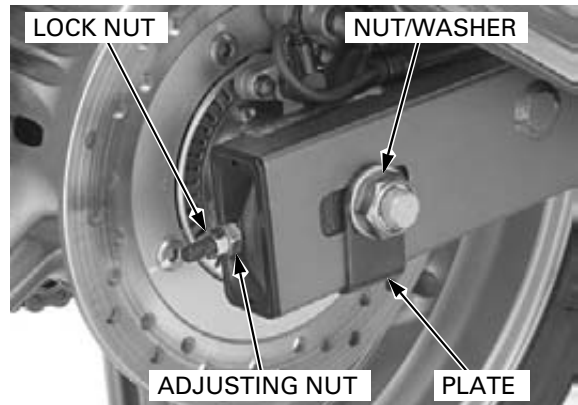
REAR WHEEL

REMOVAL

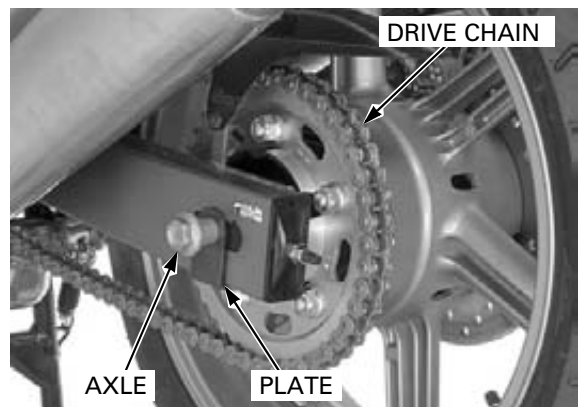
Loosen the drive chain adjuster lock nuts and adjusting nuts (both sides).
Loosen the rear axle nut.

Support the motorcycle securely using the center stand (CBF1000A) or hoist, and raise the rear wheel off the ground.

Remove the axle nut, washer and setting plate.



Push the rear wheel forward and derail the drive chain from the driven sprocket



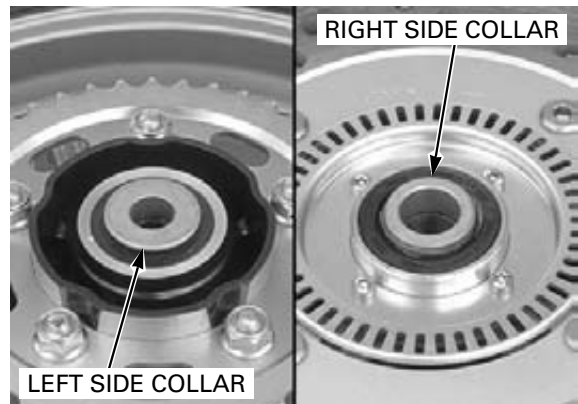
CBF1000A only: Be careful not to damage the speed sensor on the brake caliper.

Remove the rear axle, setting plate and the rear wheel.

NOTE:

- Do not operate the brake pedal after removing the wheel. To do so will cause difficulty in fitting the brake disc between the brake pads.

Remove the right and left side collars.

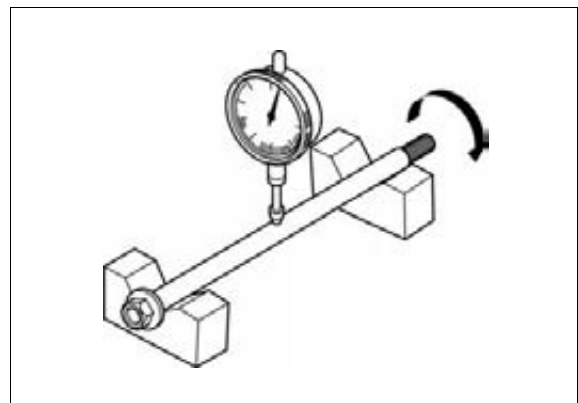


INSPECTION

AXLE

Set the axle in V-blocks. Turn the axle and measure the runout using a dial indicator.
Actual runout is 1/2 the total indicator reading.

SERVICE LIMIT: 0.2 mm (0.01 in)



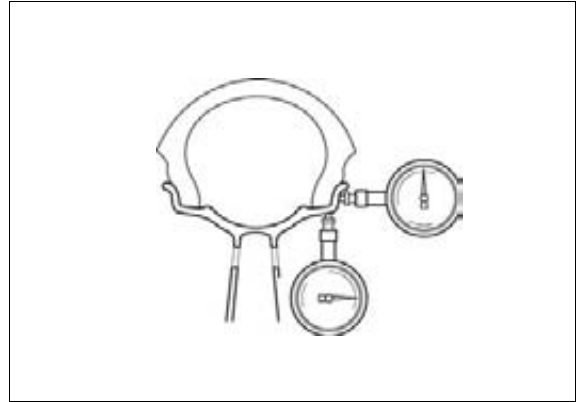
WHEEL RIM

Check the rim runout by placing the wheel in a truing stand.
Spin the wheel by hand, 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)

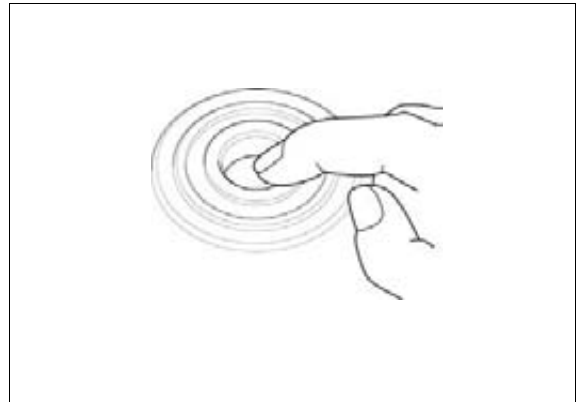


WHEEL BEARING

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

Replace the bearings in pairs.

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

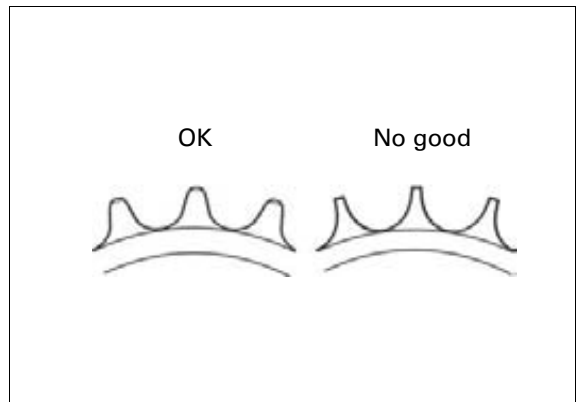


DRIVEN SPROCKET

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

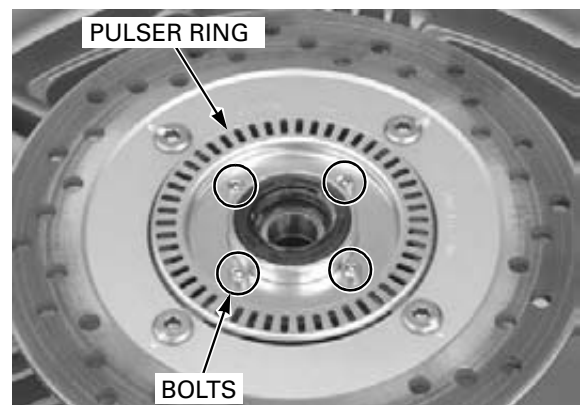
NOTE:

- If the 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.



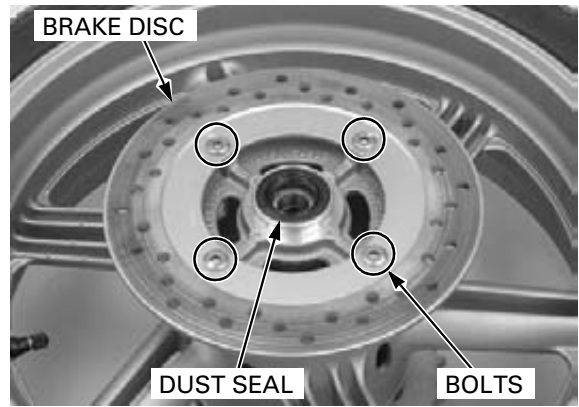
DISASSEMBLY

CBF1000A only: Remove the torx bolts and speed sensor pulser ring.



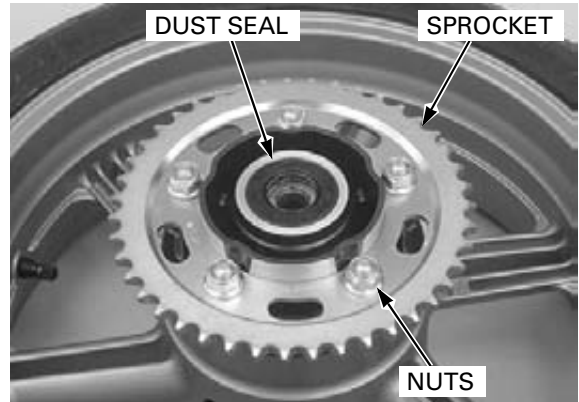
REAR WHEEL/SUSPENSION

Remove the right dust seal.
Remove the bolts and brake disc.

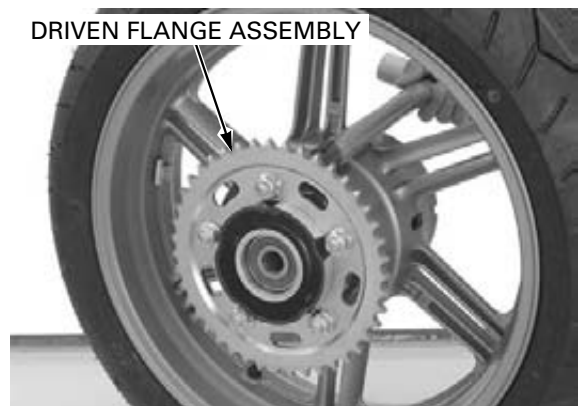


*If you will replace
the driven sprocket,
loosen the sprocket
nuts.*

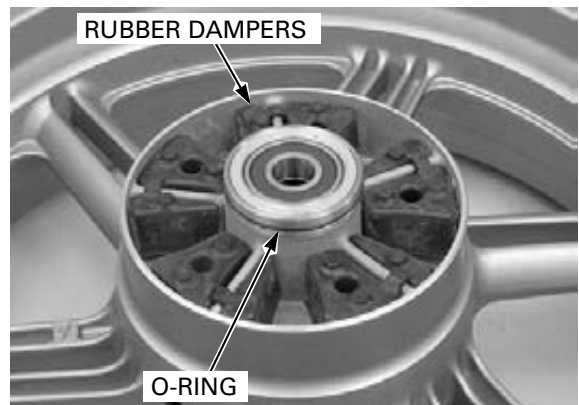
Remove the left dust seal.



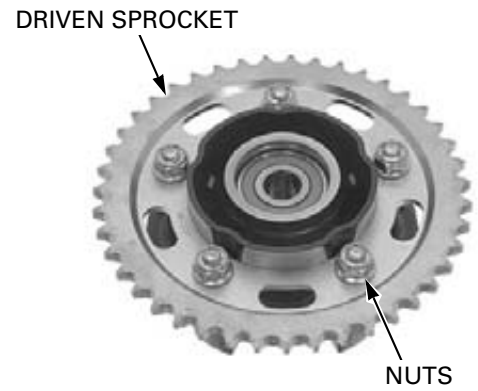
Remove the driven flange assembly from the left
wheel hub.



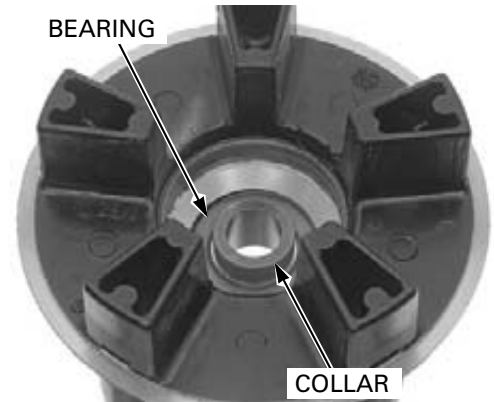
Remove the rubber dampers and O-ring.



Remove the nuts and driven sprocket.



Remove the driven flange collar and drive out the driven flange bearing.

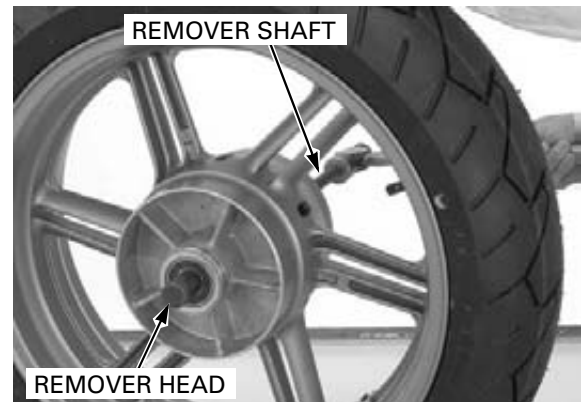


Replace the wheel bearings in pairs. Do not reuse old bearing.

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

TOOLS:

Bearing remover shaft 07GGD-0010100
Bearing remover head, 20 mm 07746-0050600

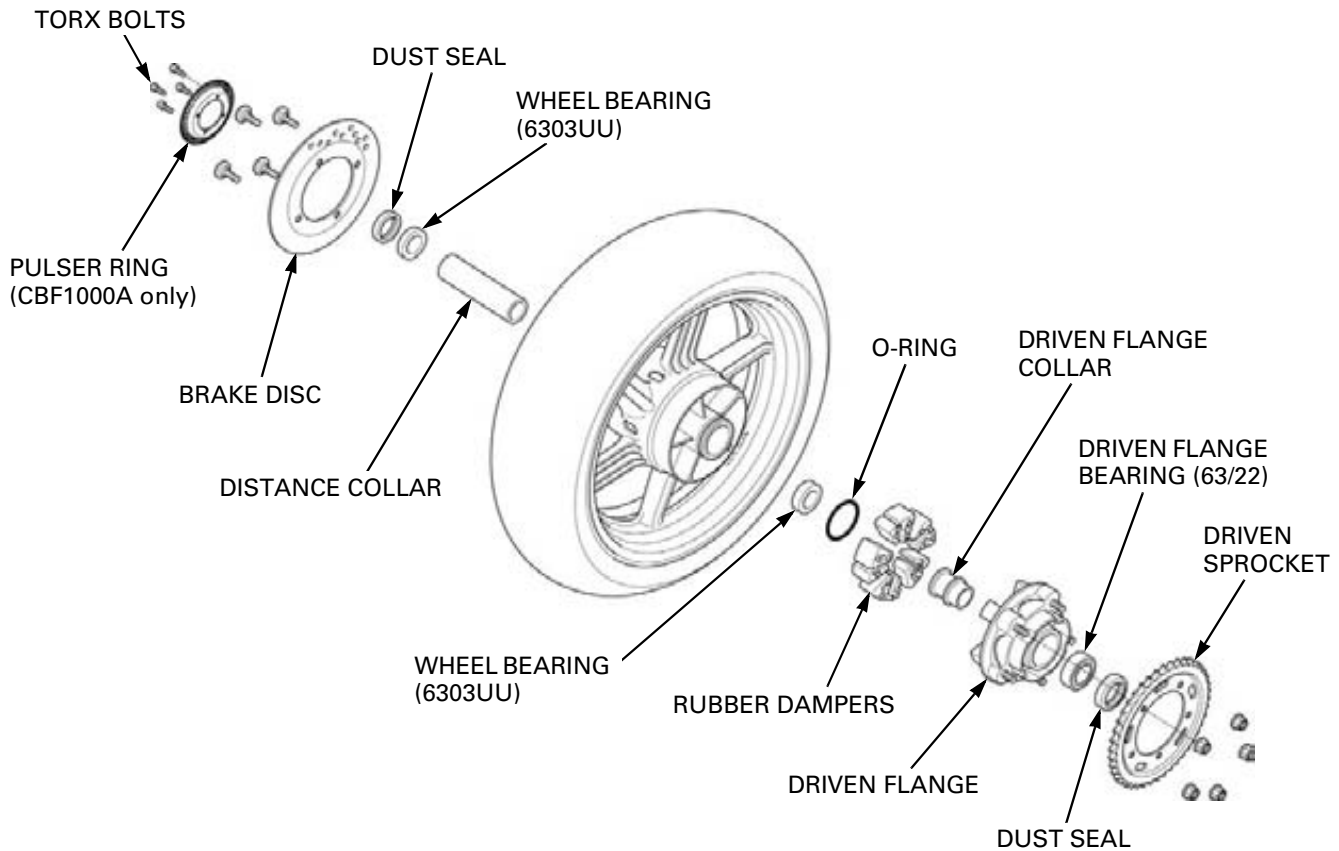


REAR WHEEL/SUSPENSION

ASSEMBLY

NOTE:

- Refer to page 14-17 for wheel balance.



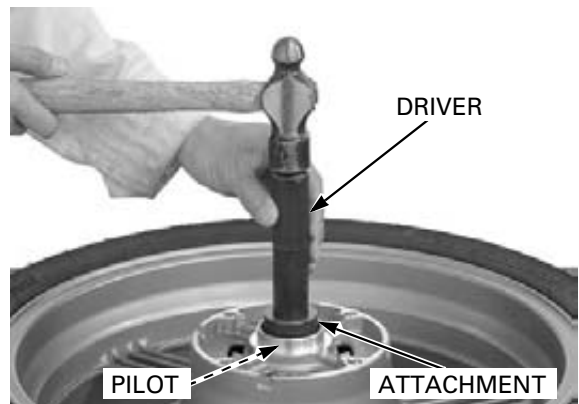
Drive in new right wheel bearing squarely with its marked side facing out, until it is fully seated.

TOOLS:

Driver	07749-0010000
Attachment, 42 x 47 mm	07746-0010300
Pilot, 20 mm	07746-0040500

Install the distance collar.

Using the same tools, drive in new left wheel bearing squarely with its marked side facing out, until it is fully seated on the distance collar.



Place a new driven flange bearing with its marked side facing down. Install the driven flange collar into the bearing until it is fully seated.

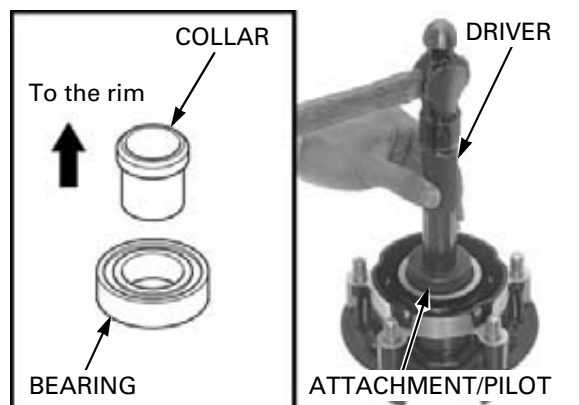
TOOLS:

Driver	07749-0010000
Attachment, 32 x 35 mm	07746-0010100
Pilot, 20 mm	07746-0040500

Drive in the driven flange bearing with the collar side facing in, until outer race is fully seated.

TOOLS:

Driver	07749-0010000
Attachment, 52 x 55 mm	07746-0010400
Pilot, 20 mm	07746-0040500

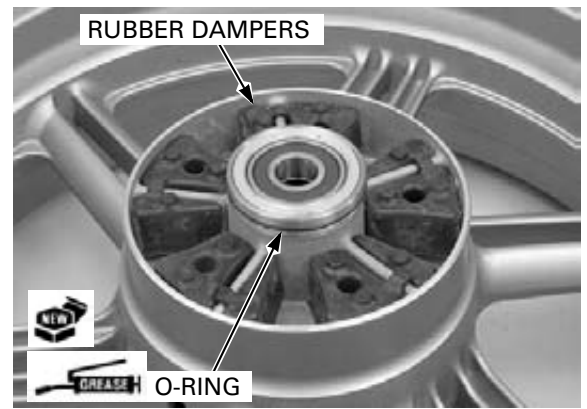


REAR WHEEL/SUSPENSION

Replace the rubber dampers as a set.

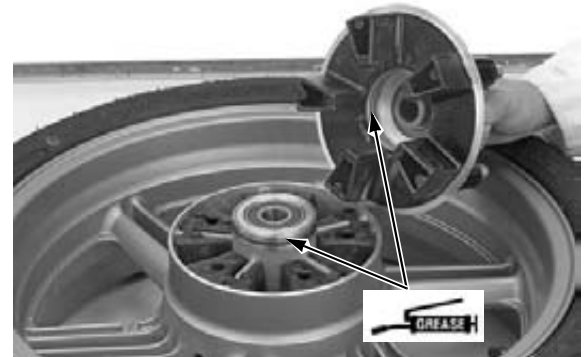
Install the rubber dampers as shown.

Coat a new O-ring with grease and install it into the groove in the sleeve.



Apply grease to the sleeve sliding surface of the driven flange.

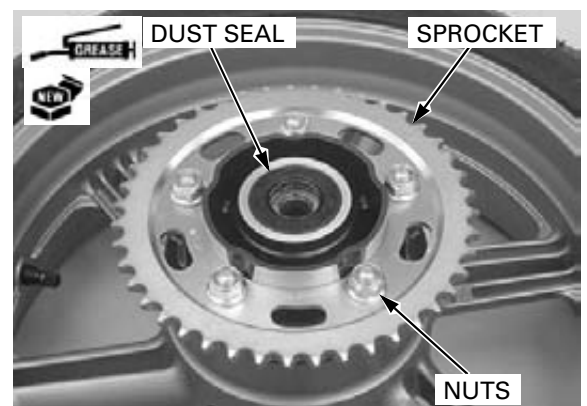
Install the driven flange assembly until it is fully seated.



If the driven sprocket was replaced, install the driven sprocket and tighten the nuts.

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

Apply grease to new dust seal lips and install the dust seal until it is flush with the driven flange.

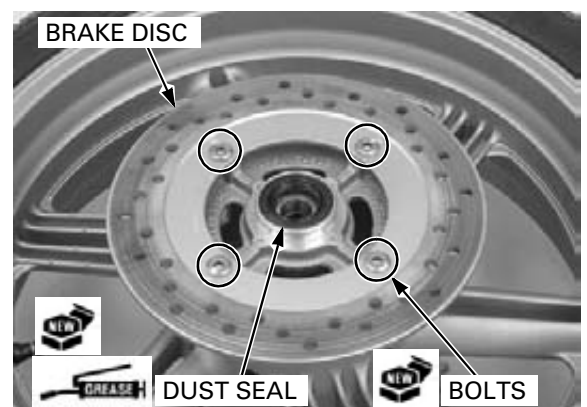


Install the brake disc with the stamp facing out. Install new disc bolts and tighten them to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

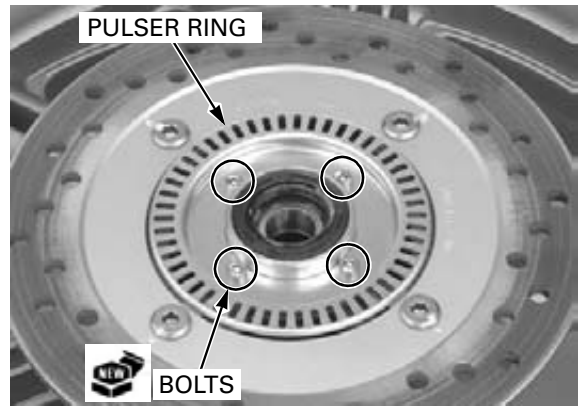
Do not get grease on the brake disc or stopping power will be reduced.

Apply grease to new dust seal lips and install the dust seal until it is flush with the wheel hub.



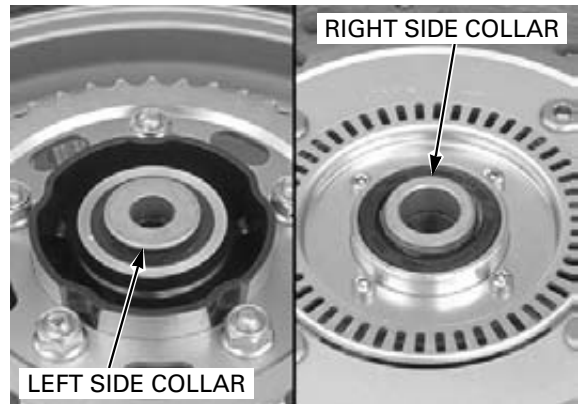
REAR WHEEL/SUSPENSION

CBF1000A only: Install the speed sensor pulser ring.
Install the new torx bolts and tighten them to the specified torque.
TORQUE: 7 N·m (0.7 kgf·m, 5.2 lbf·ft)

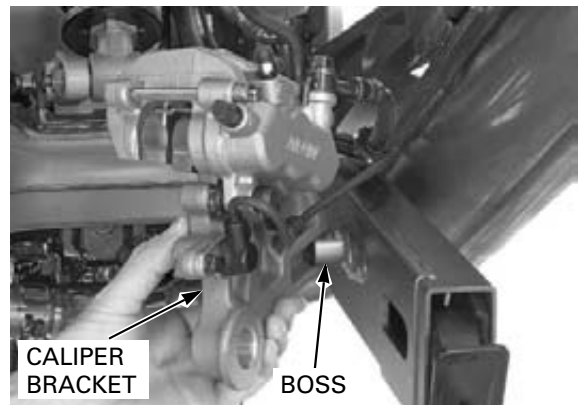


INSTALLATION

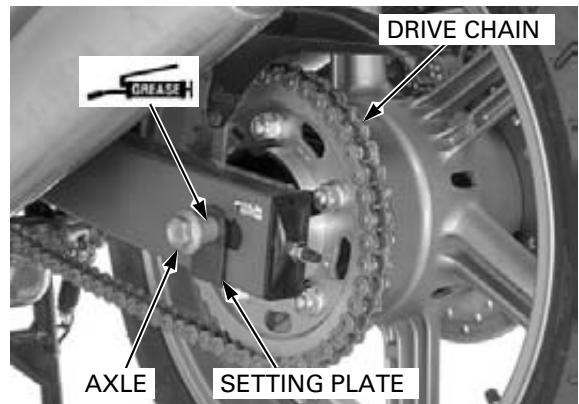
Install the right and left side collars.



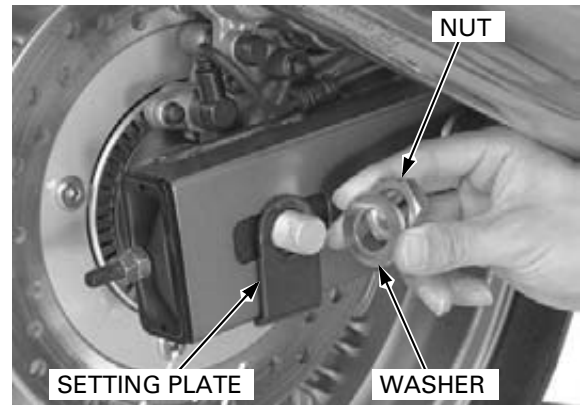
Install the brake caliper bracket onto the swingarm boss.



Be careful not to damage the brake pads and speed sensor (CBF1000A). Coat the axle surface with thin layer of grease. Place the rear wheel in the swingarm so the brake disc is positioned between the brake pads. Install the drive chain over the driven sprocket. Install the axle from the left side through the setting plate, swingarm, wheel and caliper bracket.



Install the setting plate, washer and axle nut.
Adjust the drive chain slack (page 4-21).



SHOCK ABSORBER

REMOVAL

Remove the following:

- Front seat/rear seat (page 3-3)
- Side covers (page 3-4)

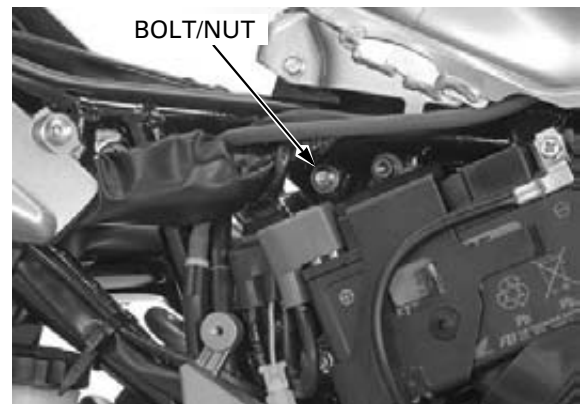
Support the motorcycle securely using the center stand (CBF1000A only) or hoist and raise the rear wheel off the ground.

Support the swingarm and remove the shock absorber lower mounting nut and bolt.



Remove the upper mounting nut and bolt.

Lower the swingarm and remove the shock absorber.

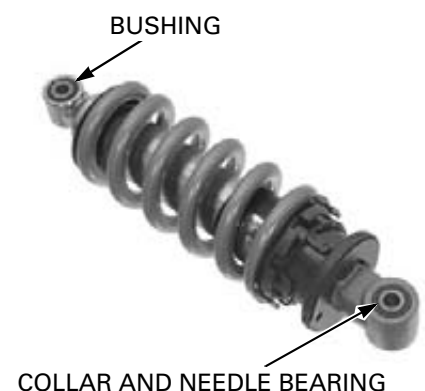


INSPECTION

Check the damper unit for leakage or other damage.
Check the upper bushing for wear or damage.
Replace the shock absorber assembly if necessary.

Remove the lower pivot collar.
Check the pivot collar and needle bearing for wear or damage.

If the shock absorber is replaced, refer to shock absorber disposal procedure (page 15-14).



REAR WHEEL/SUSPENSION

SHOCK ABSORBER DISPOSAL

Center punch the damper case at the point 35 mm (1.4 in) below the upper mounting hole to mark the drilling point.

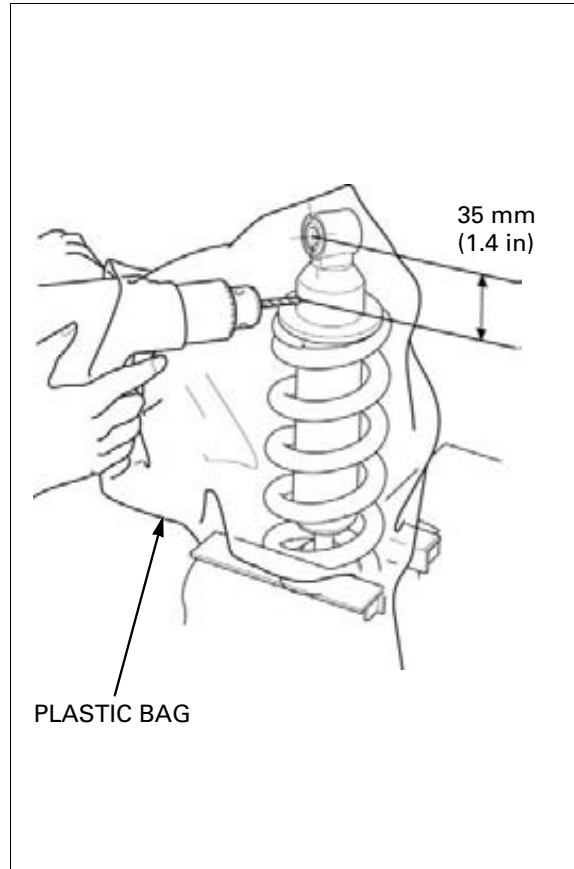
Wrap the shock absorber inside a plastic bag and support it upright in a vise as shown.

Through the open end of the bag, insert a drill motor with a sharp 2 – 3 mm (1/12 – 1/8 in) drill bit.

NOTE:

- Do not use a dull drill bit which could cause a build-up of excessive heat and pressure inside the damper, leading to explosion and severe personal injury.
- The shock absorber contains nitrogen gas and oil under high pressure. Do not drill any further down the damper case than the measurement given above, or you may drill into the oil chamber; oil escaping under high pressure may cause serious personal injury.
- Always wear eye protection to avoid getting metal shavings in your eyes when the gas pressure is released. The plastic bag is only intended to shield you from the escaping gas.

Hold the bag around the drill motor and briefly run the drill motor inside the bag; this will inflate the bag with air from the motor and help keep the bag from the getting caught in the bit when you start.



BEARING REPLACEMENT

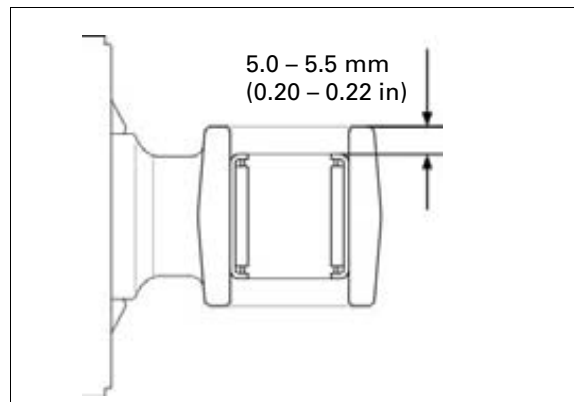
Remove the dust seals.

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

TOOLS:

Driver attachment handle	07949-3710001
Attachment, 22 x 24 mm	07746-0010800
Pilot, 17 mm	07746-0040400

Carefully press the bearing in the pivot until the depth from the pivot outer surface is 5.0 – 5.5 mm (0.20 – 0.22 in), using the same tools.

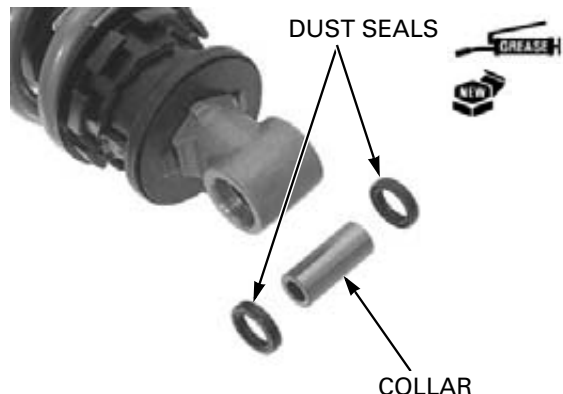


Make sure the needle rollers in the bearing are in position.

Apply grease to new dust seal lips.

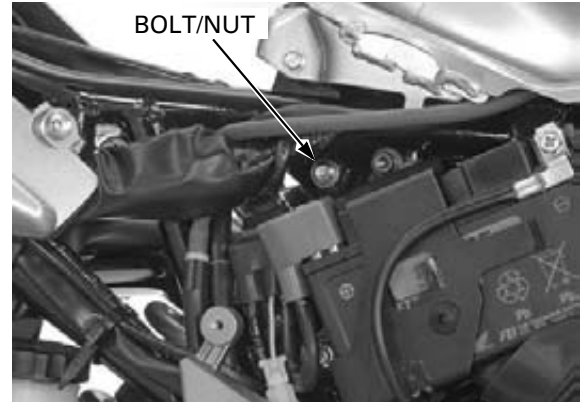
Install the dust seals with the flat surface facing out until they are flush with the lower pivot surface.

Install the pivot collar.



INSTALLATION

Install the shock absorber into the frame and swingarm.
Install the upper mounting bolt from the left side and install the nut.



Raise the swingarm and align the bolt holes.
Install the lower mounting bolt from the left side and install the nut.
Tighten the upper and lower mounting nuts to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

Install the following:

- Side covers (page 3-4)
- Front and rear seat (page 3-3)



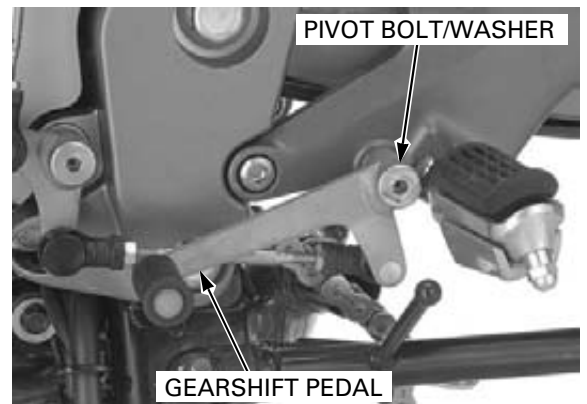
SWINGARM/SHOCK LINKAGE

REMOVAL

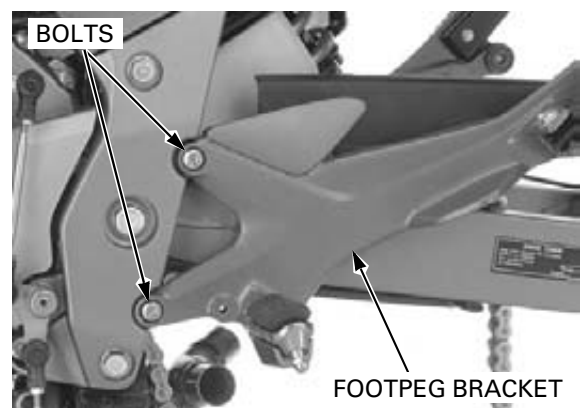
Remove the following:

- Mufflers (page 3-12)
- Rear wheel (page 15-6)

Remove the pivot bolt, washer and gearshift pedal.

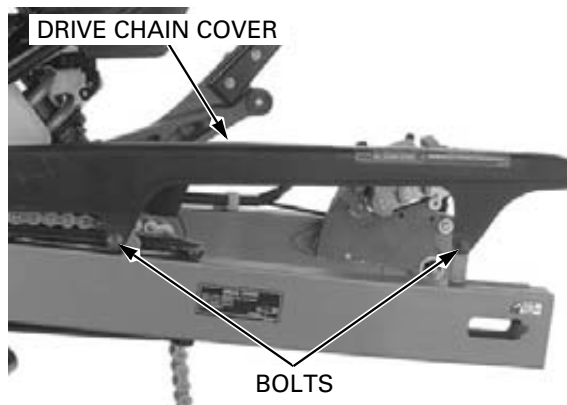


Remove the bolts and left footpeg bracket.

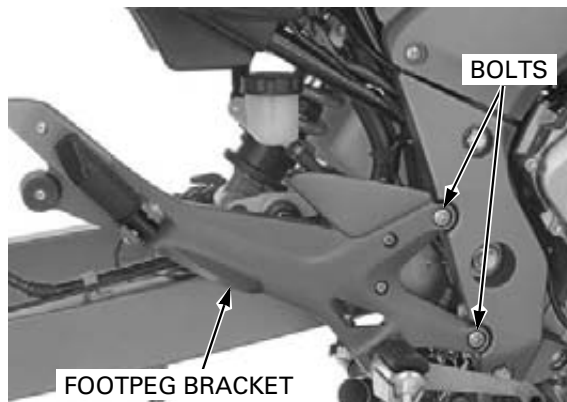


REAR WHEEL/SUSPENSION

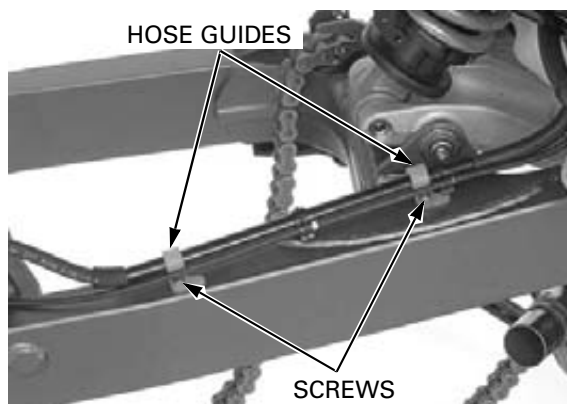
Remove the bolts and drive chain cover.



Remove the bolts and right footpeg bracket.

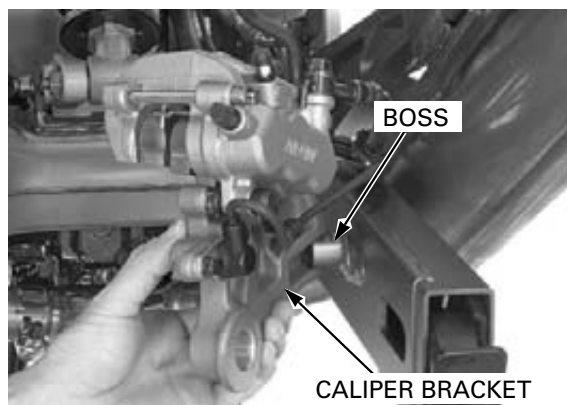


Remove the screws and brake hose guides.

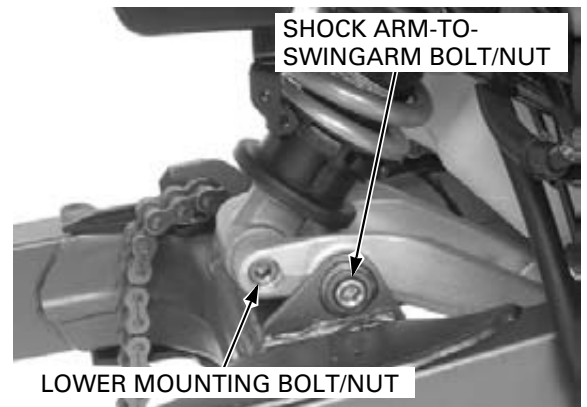


Support the brake caliper so it does not hang from the brake hose or speed sensor wire (CBF1000A). Do not twist the brake hose.

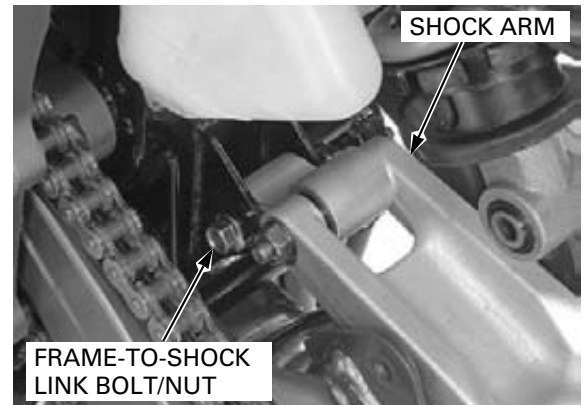
Remove the brake caliper bracket from the swingarm boss.



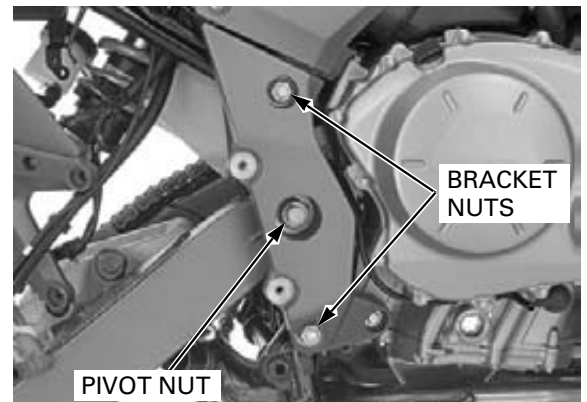
Remove the shock absorber lower mounting bolt/nut.
Remove the shock arm-to-swingarm bolt/nut.



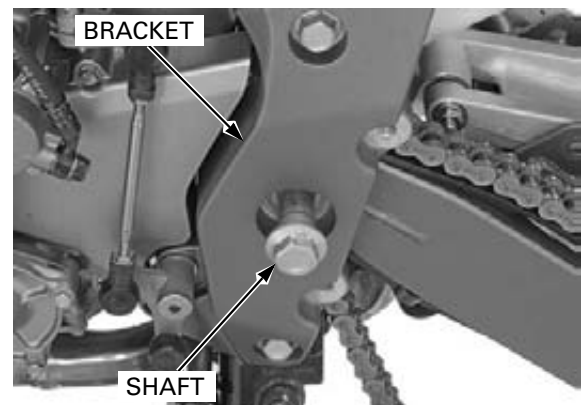
Remove the frame-to-shock link bolt/nut, then remove the shock link with the shock arm.



Loosen the swingarm pivot nut.
Remove the swingarm pivot bracket nuts.



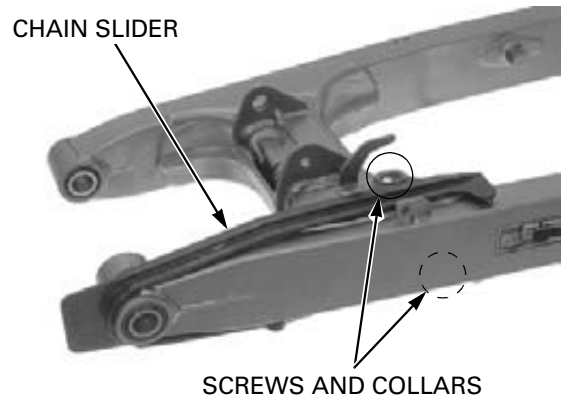
Slightly pull the pivot brackets outward.
Remove the swingarm pivot nut, pivot shaft and the swingarm.



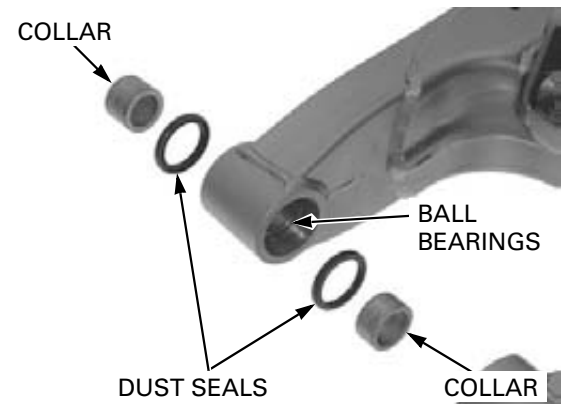
REAR WHEEL/SUSPENSION

DISASSEMBLY

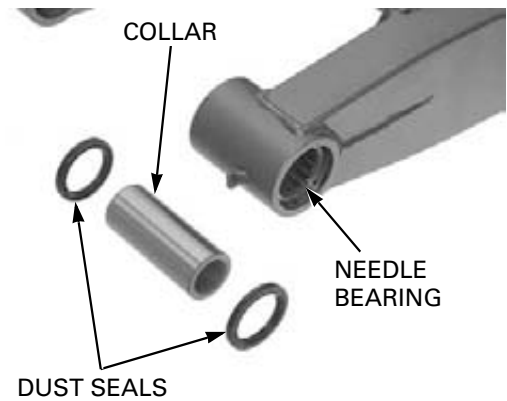
Remove the screws, setting collars and drive chain slider.



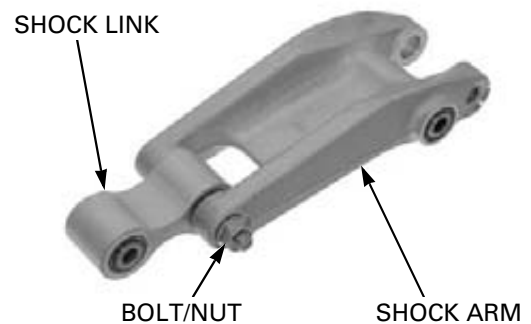
Remove the pivot collars and dust seals from the swingarm right pivot. Check the pivot collars and bearings for wear or damage, also check the swingarm pivot area for crack or damage.



Remove the pivot collar and dust seals from the swingarm left pivot. Check the pivot collar and needle bearing for wear or damage, also check the swingarm pivot area for crack or damage.

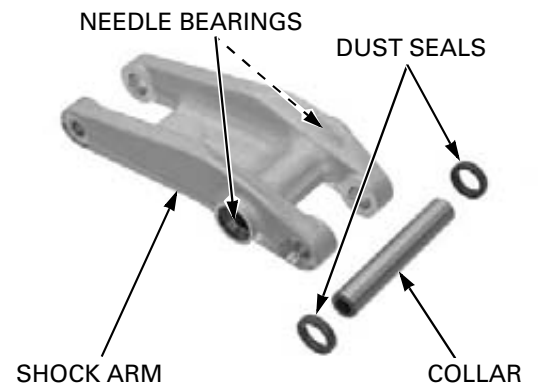


Remove the nut, bolt and shock link from the shock arm.

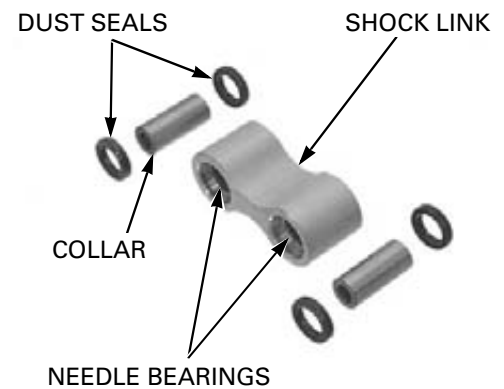


REAR WHEEL/SUSPENSION

Remove the pivot collar and dust seals from the shock arm.
Check the pivot collar for wear or damage.
Check the needle bearings for damage or loose fit.
Check the shock arm for cracks or damage.
If the needle bearings are damaged, replace them.



Remove the pivot collars and dust seals from the shock link.
Check the pivot collars for wear or damage.
Check the needle bearings for damage or loose fit.
Check the shock link for cracks or damage.
If the needle bearings are damaged, replace them.



PIVOT BEARING REPLACEMENT

Remove the snap ring from the right side pivot.



Press the ball bearings out of the right pivot using the special tools and a hydraulic press.

TOOLS:

Driver

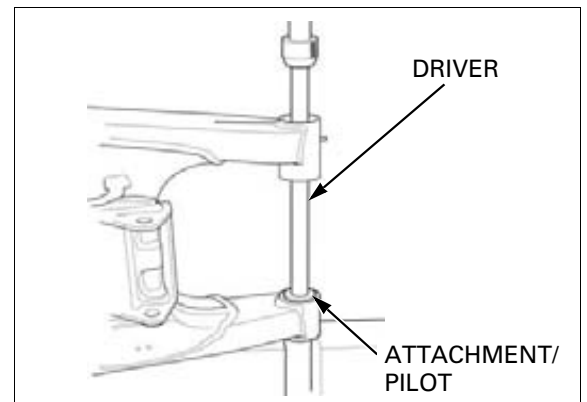
07949-3710001

Attachment, 34 mm

07ZMD-MBW0100

Pilot, 20 mm

07746-0040500

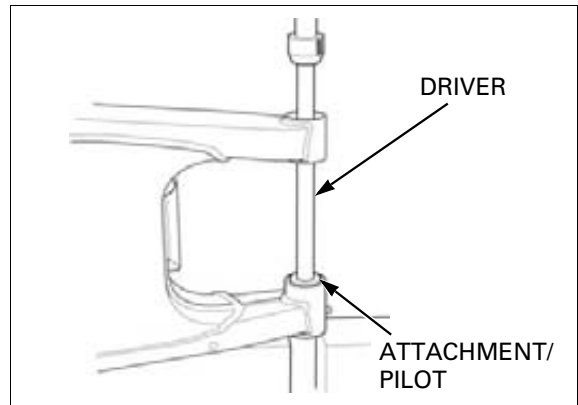


REAR WHEEL/SUSPENSION

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

TOOLS:

Driver	07949-3710001
Attachment, 37 mm	07ZMD-MBW0200
Pilot, 28 mm	07746-0041100

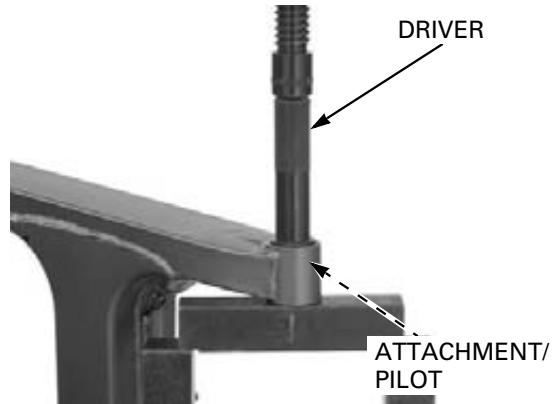


Pack new bearing cavities with grease. Using the special tools and a hydraulic press, carefully press the ball bearings in the right pivot with the marked side facing up until they are fully seated.

TOOLS:

Driver	07749-0010000
Attachment, 37 mm	07ZMD-MBW0200
Pilot, 20 mm	07746-0040500

Install the snap ring into the groove securely.



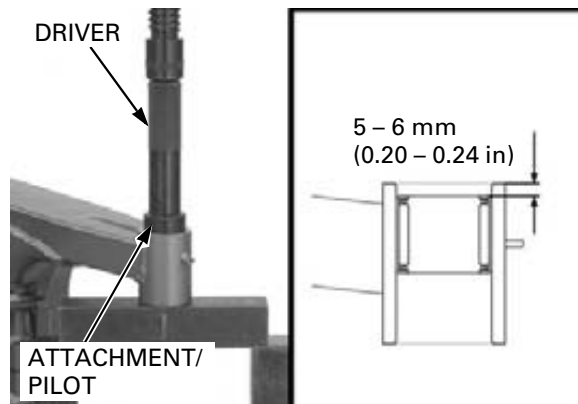
Fill up the new needle bearing with multi-purpose grease.

Press in the needle bearing with the marked side facing up.

Using the special tools and a hydraulic press, carefully press the needle bearing in the left pivot until the depth from the pivot outer surface is 5 – 6 mm (0.20 – 0.24 in).

TOOLS:

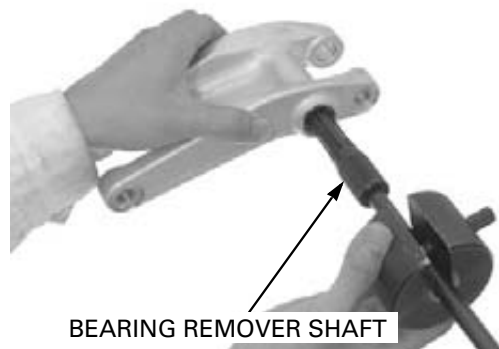
Driver	07749-0010000
Attachment, 37 mm	07ZMD-MBW0200
Pilot, 28 mm	07746-0041100



Remove the shock arm pivot needle bearings using the special tool.

TOOLS:

Bearing remover shaft, 17 mm	07936-3710300
Remove shaft handle	07936-3710100
Remover weight	07741-0010201



REAR WHEEL/SUSPENSION

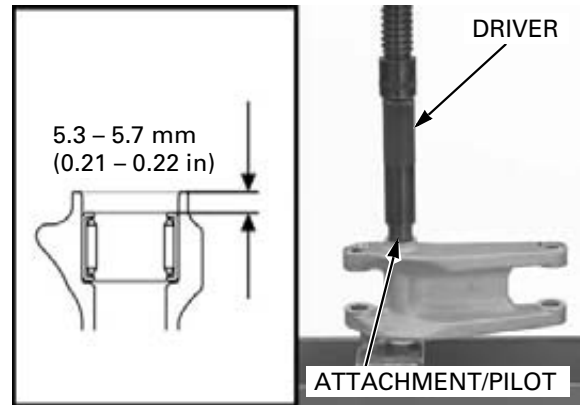
Fill up the new needle bearings with multi-purpose grease.

Press in the needle bearing with the marked side facing up.

Using the special tools and a hydraulic press, carefully press the needle bearings in the shock arm pivot until the depth from the pivot outer surface is 5.3 – 5.7 mm (0.21 – 0.22 in).

TOOLS:

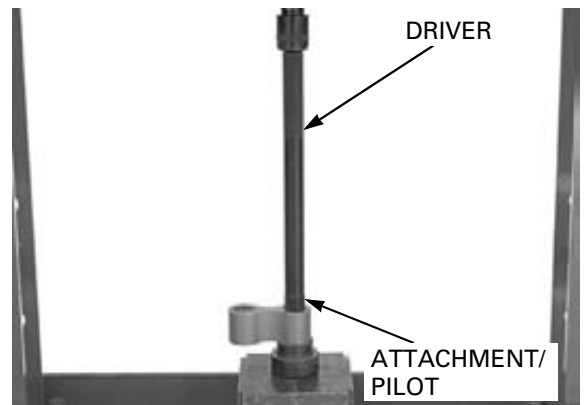
Driver	07749-0010000
Attachment, 22 x 24 mm	07746-0010800
Pilot, 17 mm	07746-0040400



Press the needle bearings out of the shock link using the special tools and a hydraulic press.

TOOLS:

Driver	07949-3710001
Attachment, 22 x 24 mm	07746-0010800
Pilot, 17 mm	07746-0040400



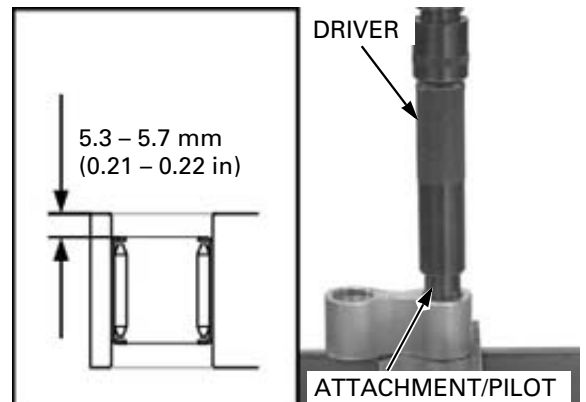
Fill up the new needle bearings with multi-purpose grease.

Press in the needle bearing with the marked side facing up.

Using the special tools and a hydraulic press, carefully press the needle bearings in the shock link pivot until the depth from the pivot outer surface is 5.3 – 5.7 mm (0.21 – 0.22 in).

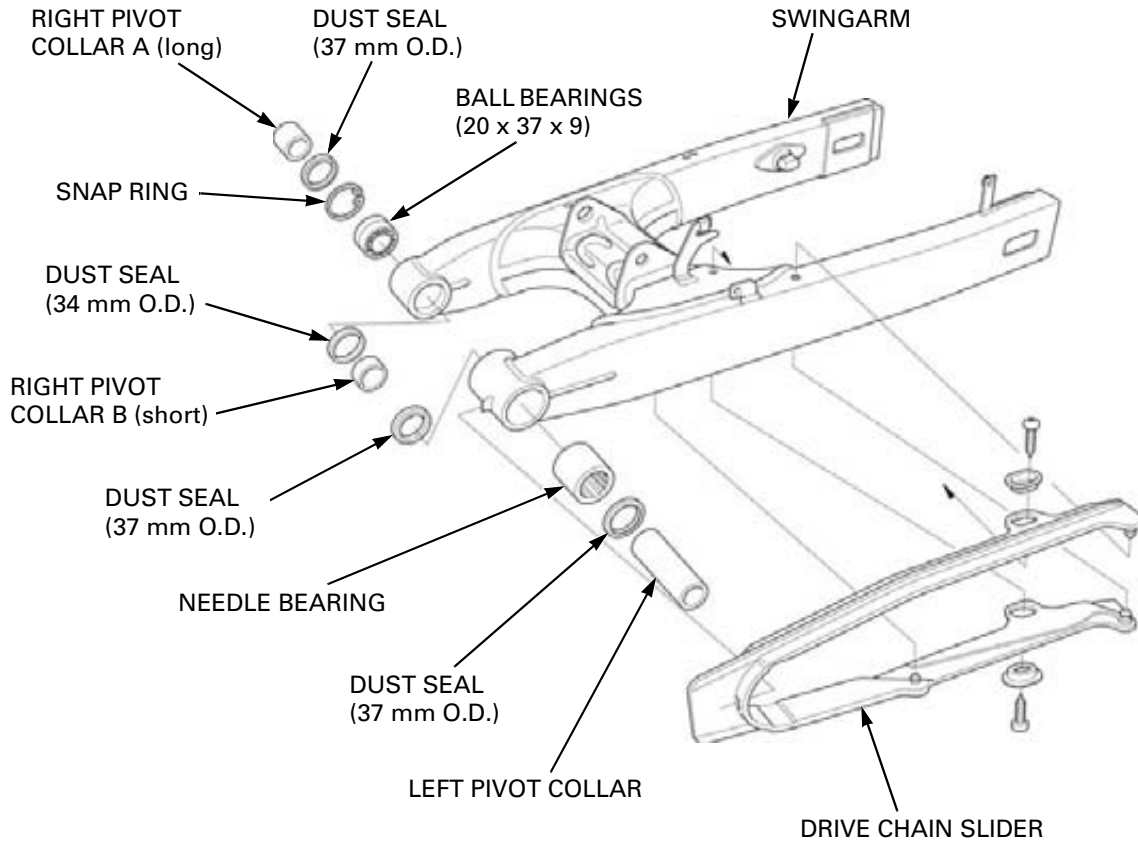
TOOLS:

Driver	07749-0010000
Attachment, 22 x 24 mm	07746-0010800
Pilot, 17 mm	07746-0040400



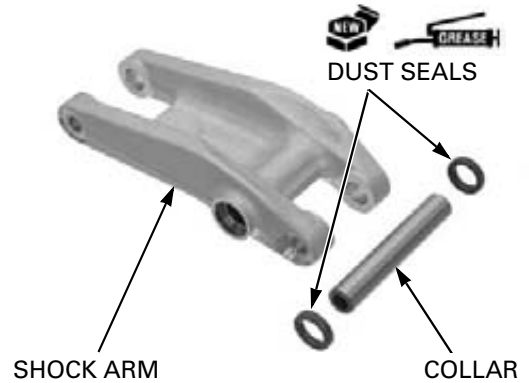
REAR WHEEL/SUSPENSION

ASSEMBLY



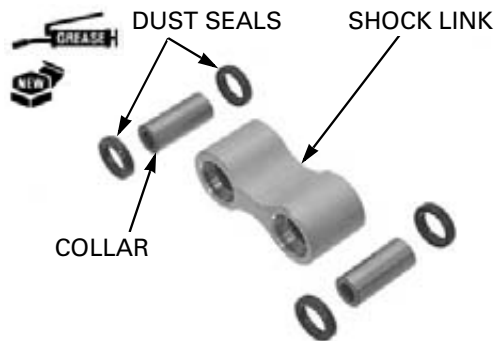
Apply multi-purpose grease to the shock arm dust seal lips.

Install the dust seals and pivot collar to the shock arm.



Apply multi-purpose grease to the shock link dust seal lips.

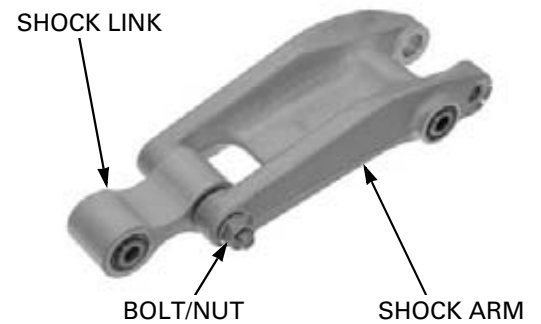
Install the dust seals and pivot collars to the shock link.



Install the shock link to the shock arm.

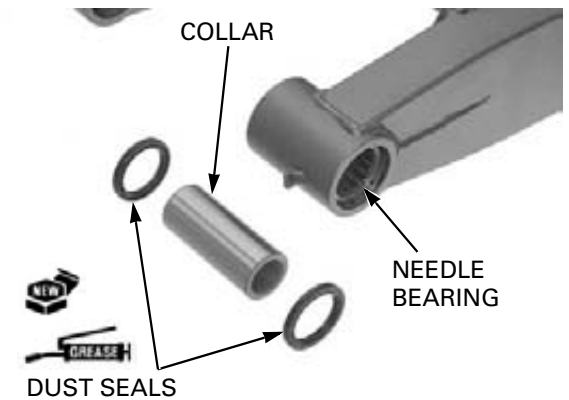
Install the pivot bolt and nut, then tighten the nut to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

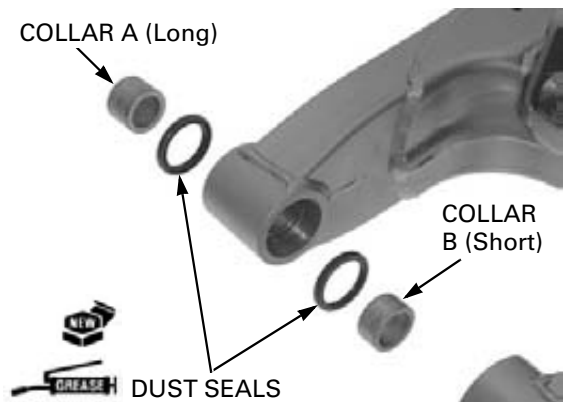


Make sure the needle rollers in the bearing are in position.

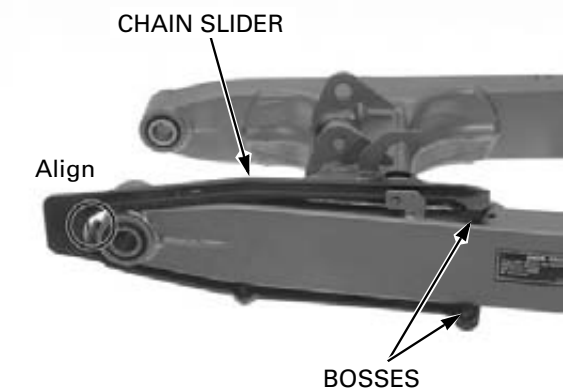
Apply grease to new dust seal lips.
Install the dust seals with the flat surface facing out until they are flush with the pivot outer surface.
Install the pivot collar.



Apply grease to new dust seal lips.
Install the dust seals with the flat surface facing out until they are flush with the pivot outer surface.
Install the swingarm right pivot collars (A and B) as shown.



Install the drive chain slider, aligning the slit with the lug on the swingarm.
Install the drive chain slider bosses into the holes on the swingarm.

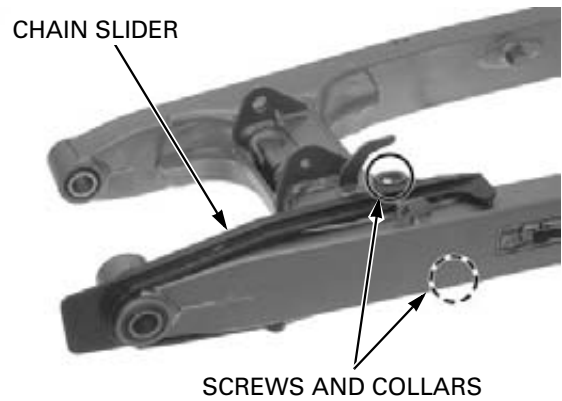


REAR WHEEL/SUSPENSION

Install the two screws with the setting collars and tighten them.

TORQUE: 6 N·m (0.6 kgf·m, 4.4 lbf·ft)

CHAIN SLIDER



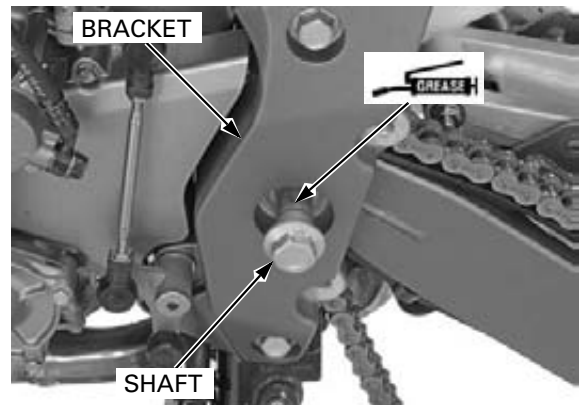
SCREWS AND COLLARS

INSTALLATION

Install the swingarm onto the frame.

Apply thin coat of grease to the swingarm pivot shaft surface and install the pivot shaft from the left side.

Install the washer and pivot nut.



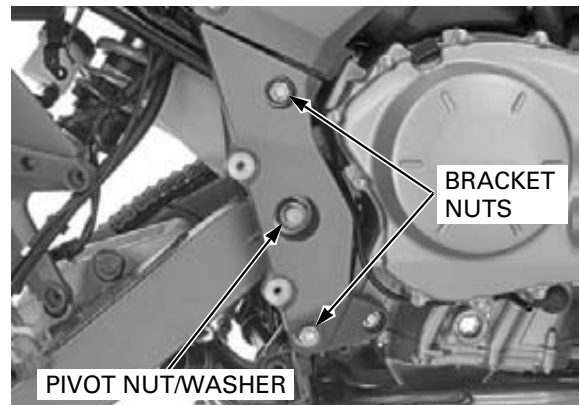
Install the pivot bracket nuts and tighten them to the specified torque.

TORQUE: 69 N·m (7.0 kgf·m, 51 lbf·ft)

Tighten the swingarm pivot nut to the specified torque.

TORQUE: 98 N·m (10.0 kgf·m, 72 lbf·ft)

Move the swingarm up and down several times and make sure it moves smoothly.

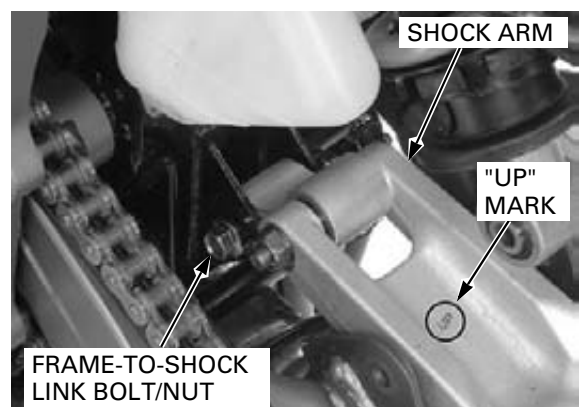


Install the shock arm with the "UP" mark facing up.

Install the shock link/shock arm into the frame.

Install the frame-to-shock link bolt/nut, and tighten the nut to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)



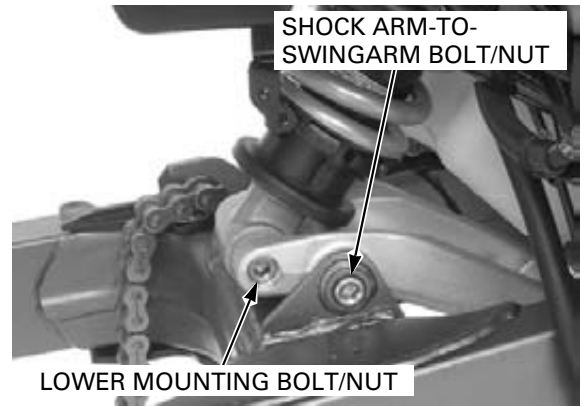
REAR WHEEL/SUSPENSION

Install the shock arm-to-swingarm bolt/nut and tighten the nut to the specified torque.

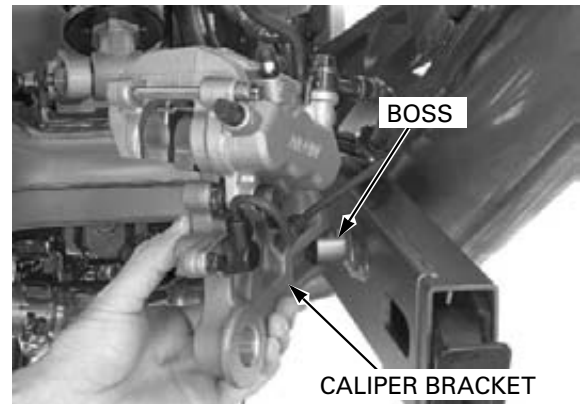
TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

Install the shock absorber lower mounting bolt/nut and tighten the nut to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

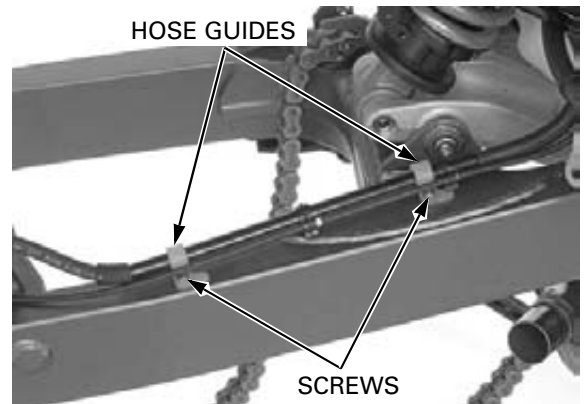


Install the brake caliper bracket onto the swingarm boss.



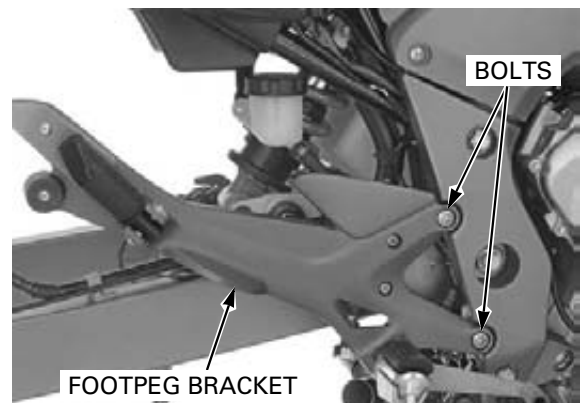
Install the hose guides, aligning the locating pin with the hole, and secure them with the screws.

TORQUE: 4.2 N·m (0.4 kgf·m, 3.1 lbf·ft)



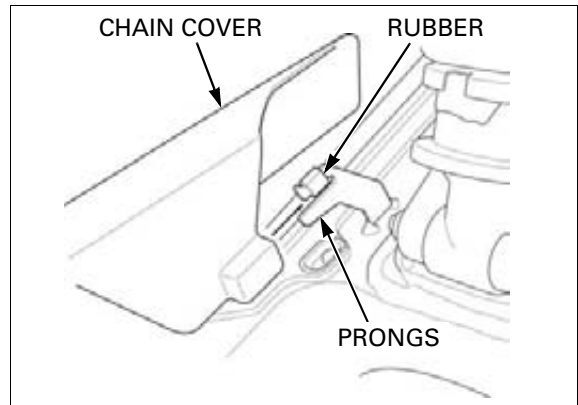
Install the right footpeg bracket and tighten the mounting bolts to the specified torque.

TORQUE: 27 N·m (2.8 kgf·m, 20 lbf·ft)



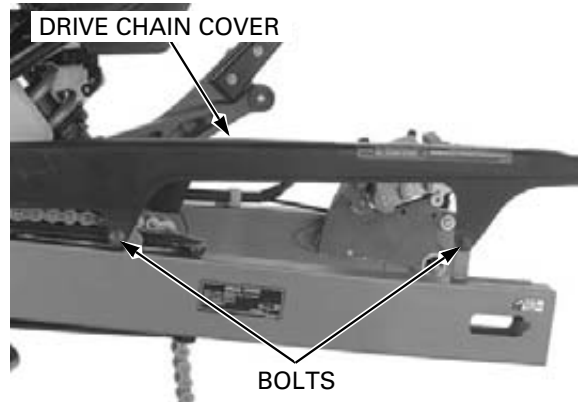
REAR WHEEL/SUSPENSION

Make sure that the protection rubber is in place. Install the drive chain cover by setting the lip of the chain cover between the prongs on the swingarm.



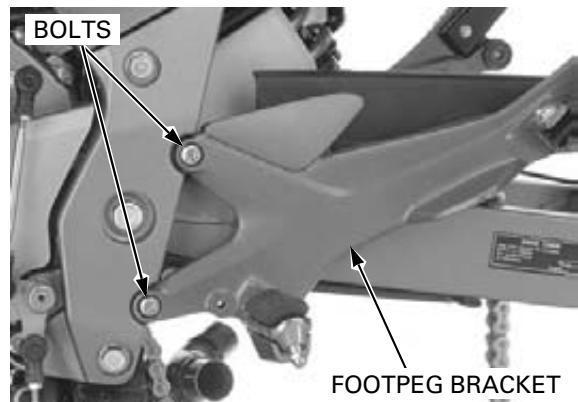
Install and tighten the bolts to the specified torque.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)



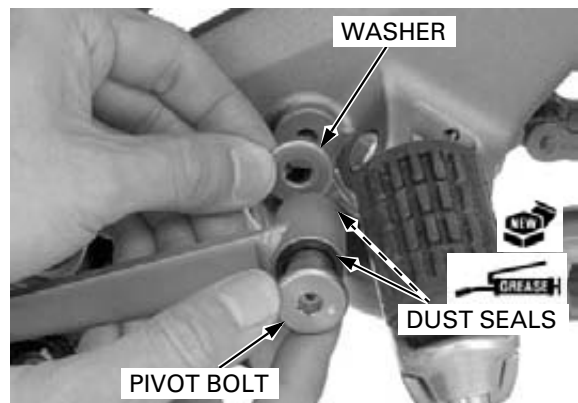
Install the left footpeg bracket and tighten the mounting bolts to the specified torque.

TORQUE: 27 N·m (2.8 kgf·m, 20 lbf·ft)



Apply grease to new dust seal lips.

Install the dust seals onto the gearshift pedal pivot. Install the washer, gearshift pedal and pivot bolt.



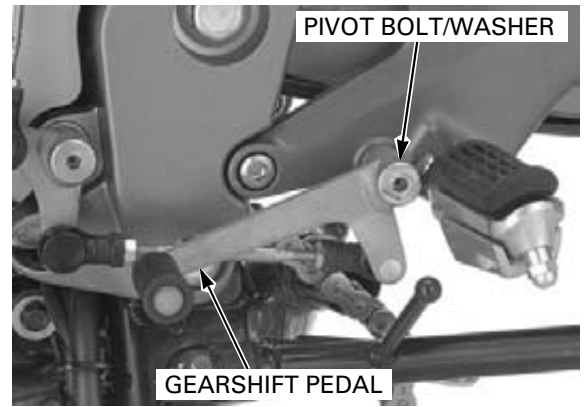
Tighten the gearshift pedal pivot bolt to the specified torque.

TORQUE: 27 N·m (2.8 kgf·m, 20 lbf·ft)

Install the following:

- Rear wheel (page 15-12)
- Muffler (page 3-12)

Inspect and adjust the drive chain slack (page 4-21).



MEMO
