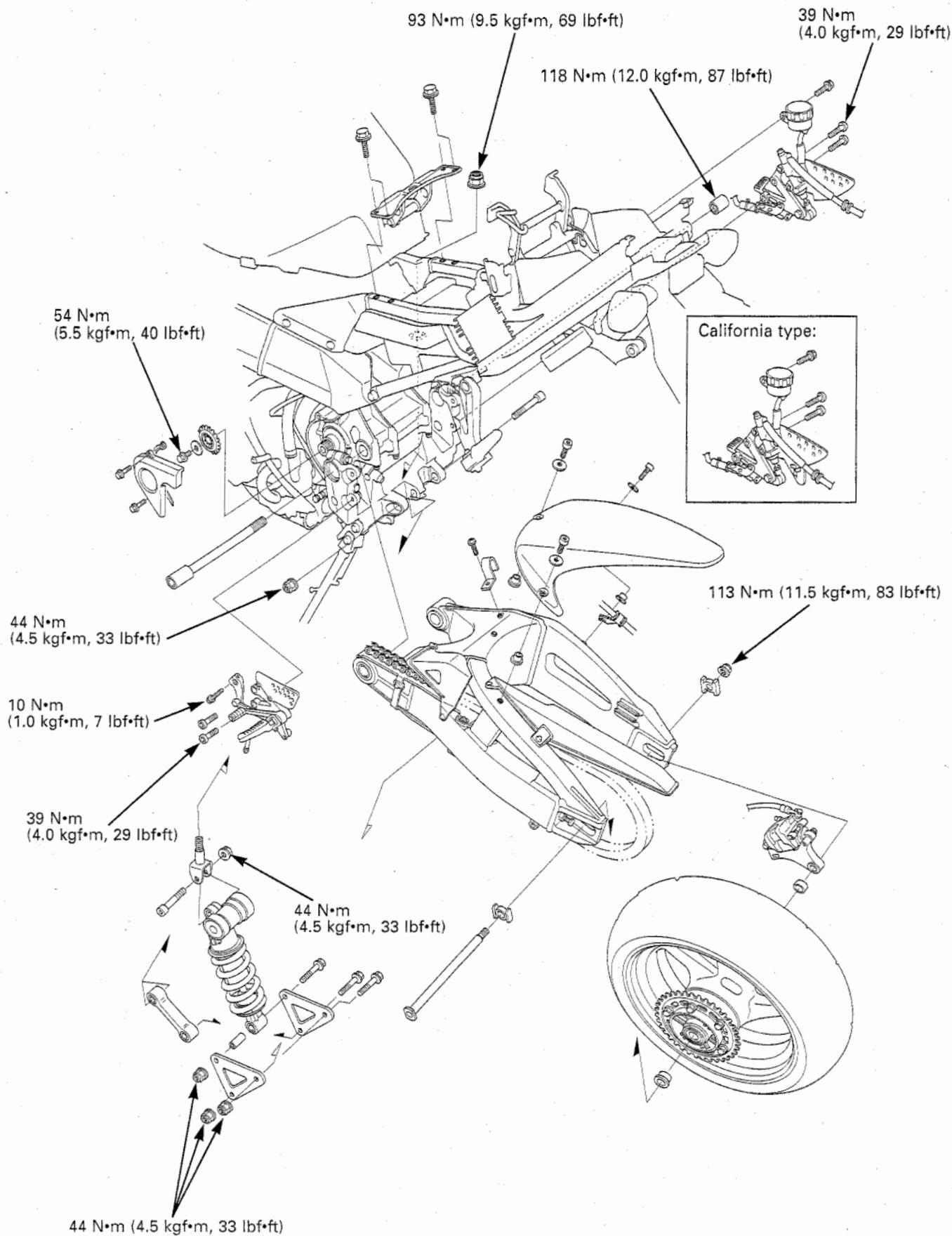


REAR WHEEL/SUSPENSION



14. REAR WHEEL/SUSPENSION

SERVICE INFORMATION	14-1	SUSPENSION LINKAGE	14-9
TROUBLESHOOTING	14-2	SHOCK ABSORBER	14-11
REAR WHEEL	14-3	SWINGARM	14-14

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.
- After 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 74-13).
- When servicing the rear wheel, support the motorcycle using a safety stand or hoist.
- Refer to section 15 for brake system information.
- Use only tires marked "TUBELESS" and tubeless valves on rims marked "TUBELESS TIRE APPLICABLE".
- Use genuine Honda replacement bolts and nuts for all suspension pivot and mounting point.

SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD		SERVICE LIMIT
Minimum tire tread depth		—		2.0 (0.08)
Cold tire pressure	Up to 90 kg (200 lb) load	290 kPa (2.90 kgf/cm ² , 42 psi)		—
	Up to maximum weight capacity	290 kPa (2.90 kgf/cm ² , 42 psi)		—
Axle runout		—		0.20 (0.008)
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	DID 50VA8 C1/108	—
		RK	RK GB50HFOZ5/108	—
	Slack	40 - 50 (1.6 - 2.0)		50 (2.0)
Shock absorber	Spring adjuster standard position		4th groove	—
	Tension adjuster initial setting		2 turns from full hard	—
	Compression adjuster initial setting		2 turns from full hard	—

REAR WHEEL/SUSPENSION

TORQUE VALUES

Rear axle nut	113 N•m (11.5 kgf•m, 83 lbf•ft)	U-nut
Rear brake disc mounting bolt	42 N•m (4.3 kgf•m, 31 lbf•ft)	ALOC bolt
Driven sprocket nut	64 N•m (6.5 kgf•m, 47 lbf•ft)	U-nut
Shock absorber upper bracket mounting nut	93 N•m (9.5 kgf•m, 69 lbf•ft)	U-nut
Shock absorber upper mounting nut	44 N•m (4.5 kgf•m, 33 lbf•ft)	U-nut
Shock arm plate nut	44 N•m (4.5 kgf•m, 33 lbf•ft)	U-nut
Shock link nut (frame side)	44 N•m (4.5 kgf•m, 33 lbf•ft)	U-nut
Swingarm pivot nut	118 N•m (12.0 kgf•m, 87 lbf•ft)	U-nut
Swingarm pivot pinch bolt	26 N•m (2.7 kgf•m, 20 lbf•ft)	
Drive chain slider bolt	9 N•m (0.9 kgf•m, 6.5 lbf•ft)	Apply a locking agent to the threads.
Main footpeg bracket socket bolt	39 N•m (4.0 kgf•m, 29 lbf•ft)	
Drive sprocket special bolt	54 N•m (5.5 kgf•m, 40 lbf•ft)	
Brake hose guide screw	4 N•m (0.4 kgf•m, 2.9 lbf•ft)	

TOOLS

Driver	07749-0010000
Attachment, 42 x 47 mm	07746-0010300
Attachment, 52 x 55 mm	07746-0010400
Attachment, 22 x 24 mm	07746-0010800
Attachment, 40 x 42 mm	07746-0010900
Pilot, 17 mm	07746-0040400
Pilot, 25 mm	07746-0040600
Bearing remover shaft	07746-0050100
Bearing remover head, 25 mm	07746-0050800
Rod holder, 24 x 27 mm	07930-KA50100
Driver shaft	07946-MJ00100
Driver	07949-3710001
Needle bearing remover	07LMC-KV30100
Pilot, 32 x 50 mm	07MAD-PR90200
Driver attachment, 25 x 38.5 mm	07YMD-MCJO100

TROUBLESHOOTING

Soft suspension

- Weak shock absorber spring
- Incorrect suspension adjustment
- Oil leakage from damper unit
- Tire pressure too low

Hard suspension

- Damaged shock absorber mounting bearing
- Bent damper rod
- Damaged suspension linkage bearings
- Damaged swingarm pivot bearings
- Bent swingarm pivot
- Incorrect suspension adjustment
- Tire pressure too high

Steers to one side or does not track straight

- Bent rear axle
- Axle alignment/chain adjustment not equal on both sides

Rear wheel wobbling

- Bent rim
- Worn rear wheel bearings
- Faulty tire
- Unbalanced tire and wheel
- Tire pressure too low
- Faulty swingarm pivot bearings

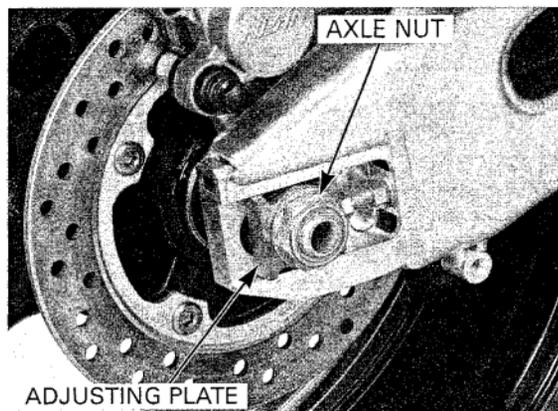
REAR WHEEL

REMOVAL

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

Adjust the drive chain slack fully (page 3-20).

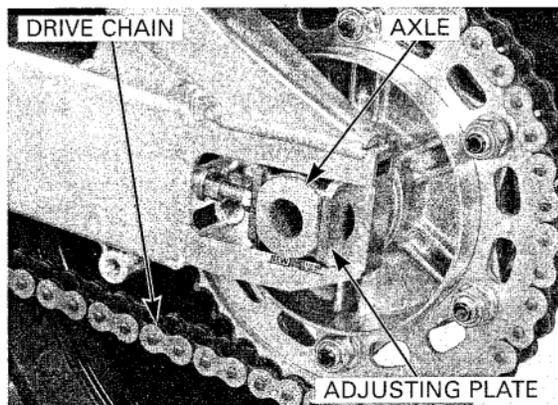
Remove the axle nut and drive chain adjusting plate.



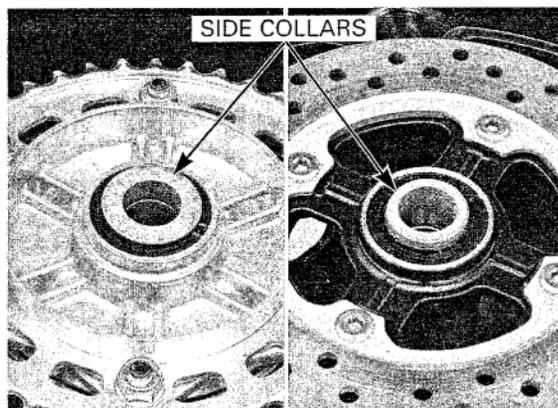
Push the rear wheel forward.

Remove the drive chain from the driven sprocket.

Remove the axle and drive chain adjusting plate from the left side and remove the rear wheel.



Remove the side collars.

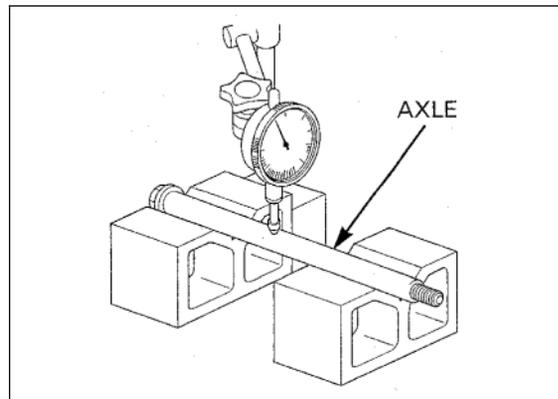


INSPECTION

Axle

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

SERVICE LIMIT: 0.20 mm (0.008 in)



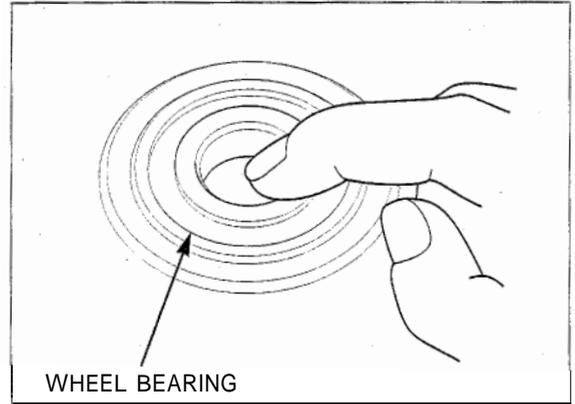
REAR WHEEL/SUSPENSION

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.



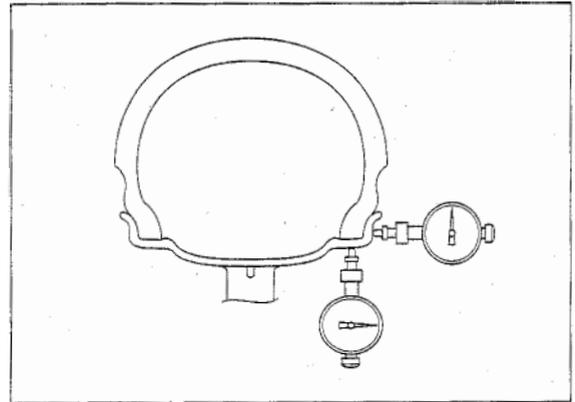
Wheel rim runout

Check the rim runout by placing the wheel in a truing stand.

Spin the wheel slowly and read the runout using a dial indicator.

Actual runout is 1/2 the total indicator reading.

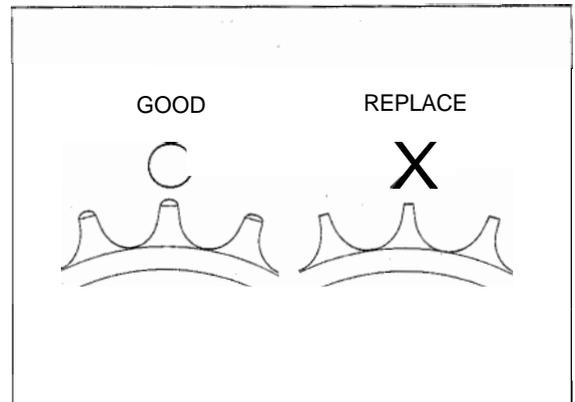
SERVICE LIMITS: Radial: 2.0 mm (0.08 in)
Axial: 2.0 mm (0.08 in)



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.

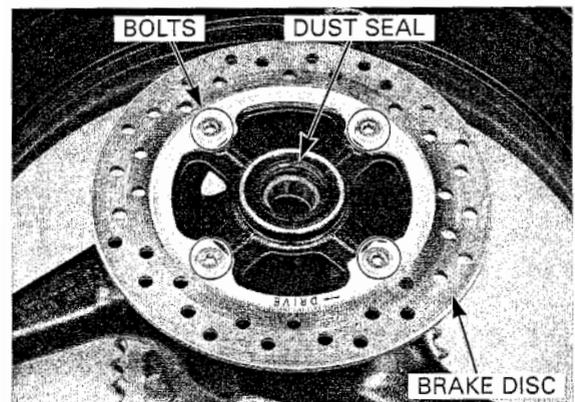


Wheel balance

See page 13-11 for wheel balance.

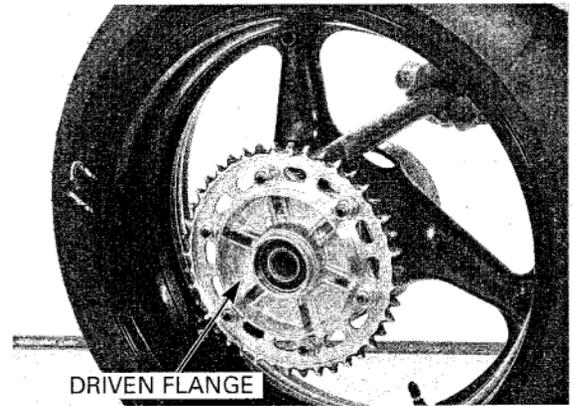
DISASSEMBLY

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

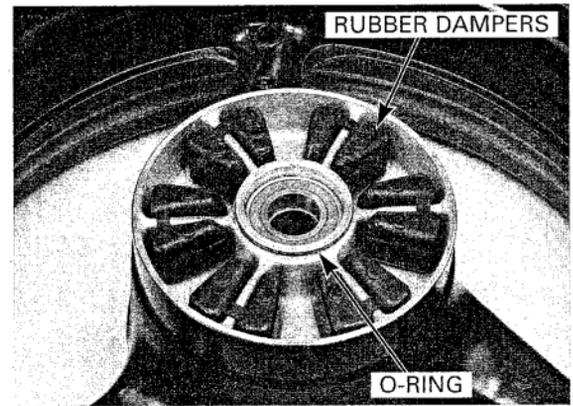


If you disassemble the driven flange, loosen the driven sprocket nuts before removing the driven flange from the wheel hub

Remove the driven flange assembly from the left wheel hub.



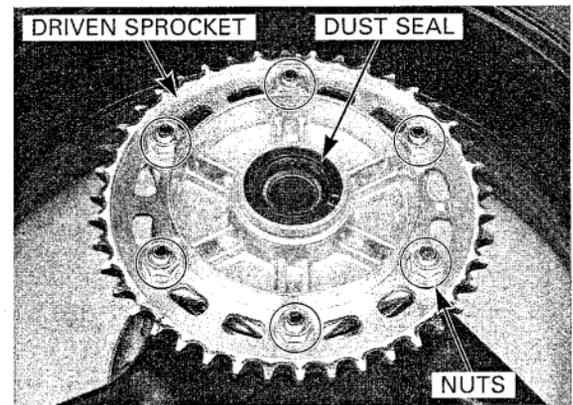
Remove the wheel rubber dampers.
Remove the O-ring.



Driven flange bearing removal
Loosen the driven sprocket nuts.

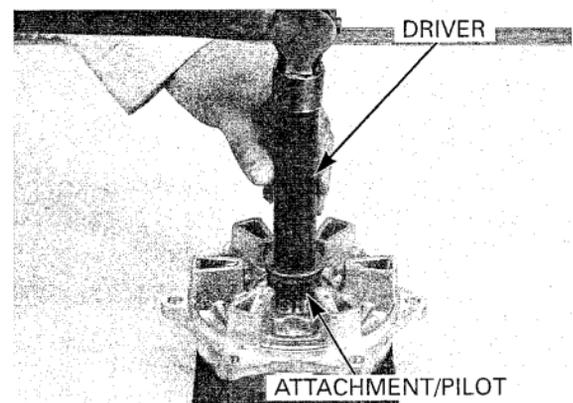
Remove the driven flange from the wheel hub, then remove the driven sprocket nuts and sprocket.

Remove the dust seal.



Remove the driven flange collar.

Drive out the driven flange bearing.



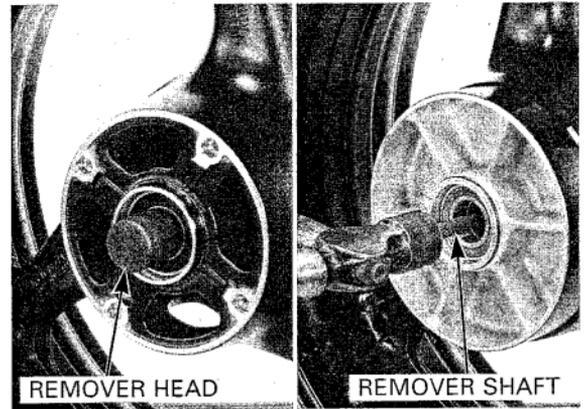
REAR WHEEL/SUSPENSION

Wheel bearing removal

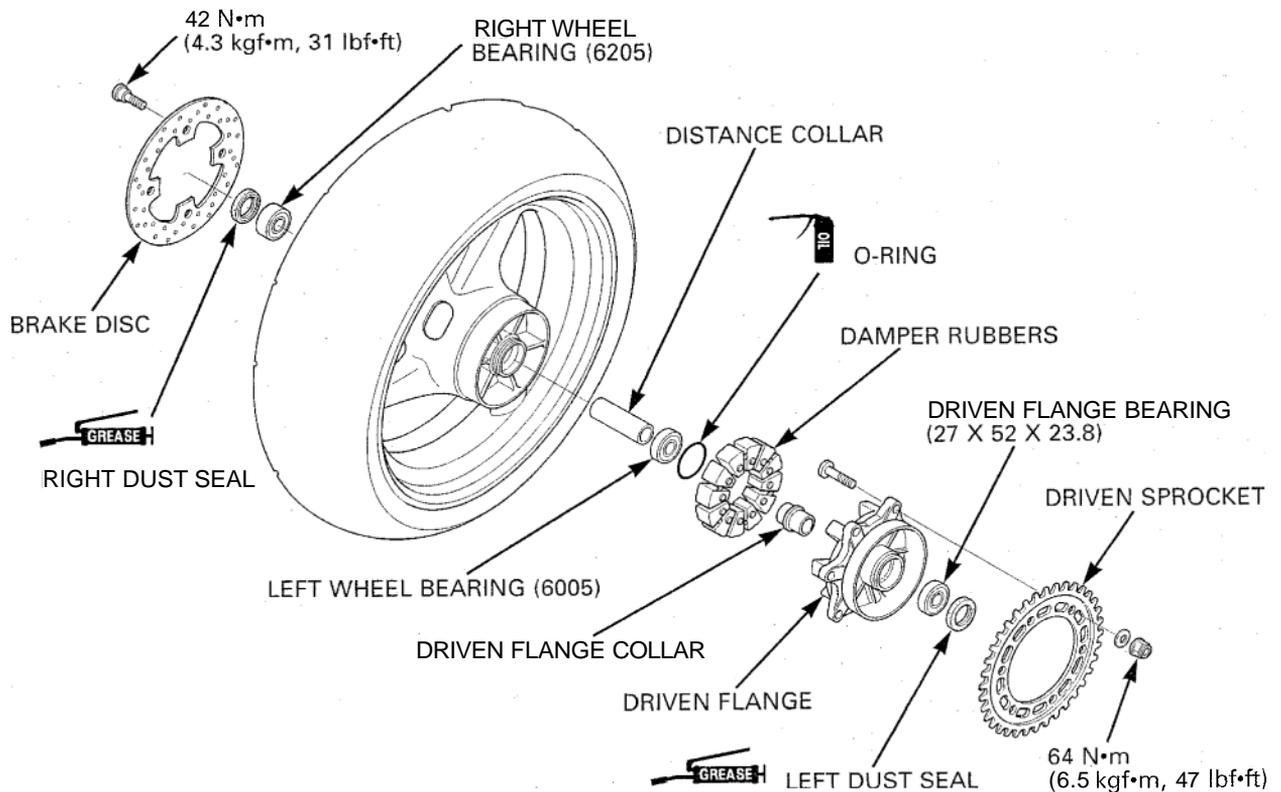
Install the bearing remover head into the bearing. From the opposite side install the bearing remover shaft and drive the bearing out of the wheel hub. Remove the distance collar and drive out the other bearing.

TOOLS:

Bearing remover head, 25 mm 07746-0050800
 Bearing remover shaft 07746-0050100



ASSEMBLY



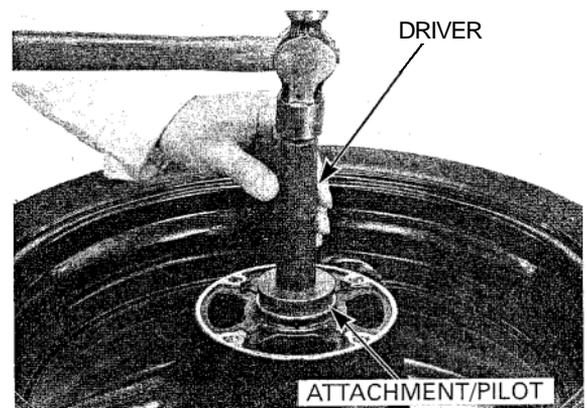
Never install the old bearings, once the bearings have been removed, they must be replaced with new ones

Wheel bearing installation

Drive in a new right bearing (6205) squarely.

TOOLS:

Driver 07749-0010000
 Attachment, 52 x 55 mm 07746-0010400
 Pilot, 25 mm 07746-0040600

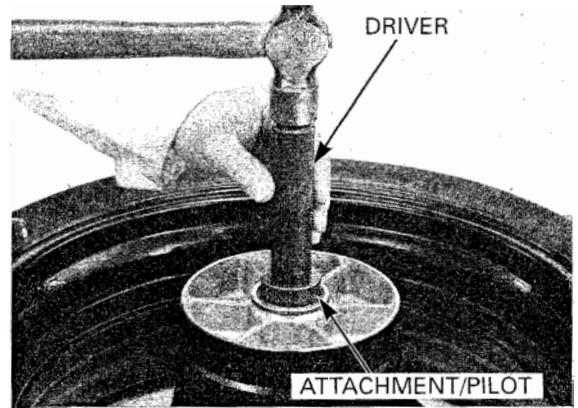


Install the distance collar

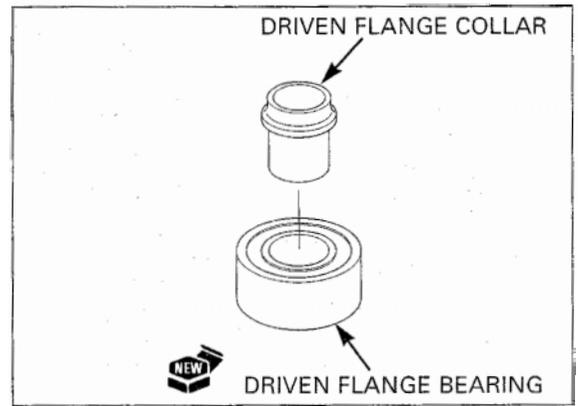
Drive in a new left side bearing using the special tools.

TOOLS:

Driver	07749-0010000
Attachment, 42 x 47 mm	07746-0010300
Pilot, 25 mm	07746-0040600



Install the driven flange collar into a new driven flange bearing (27 x 52 x 23.8).

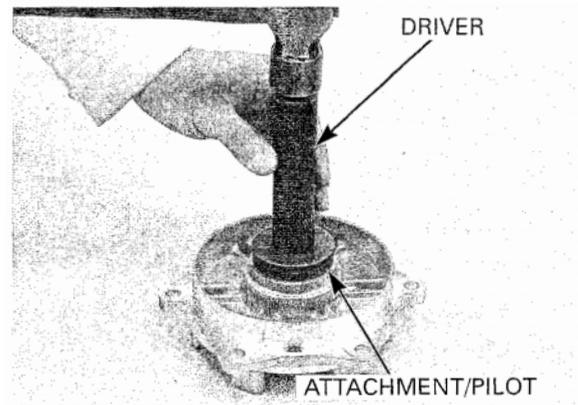


Driven flange bearing installation

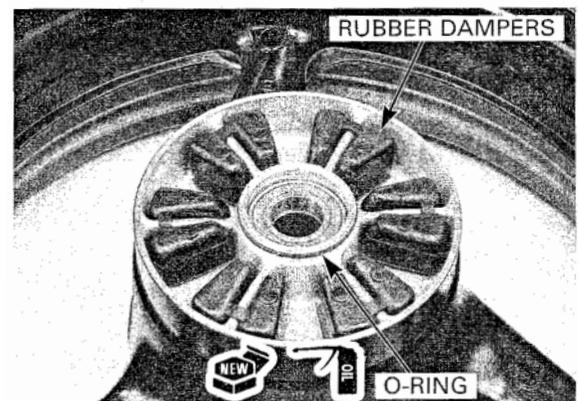
Drive the new driven flange bearing into the driven flange using the special tools.

TOOLS:

Driver	07749-0010000
Attachment, 52 x 55 mm	07746-0010400
Pilot, 25 mm	07746-0040600



Install the wheel rubber dampers into the wheel hub. Apply oil to the new O-ring and install it into the groove of the wheel hub.



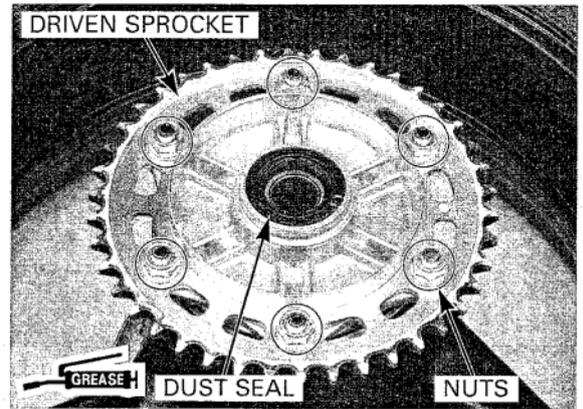
REAR WHEEL/SUSPENSION

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: 64 N·m (6.5 kgf·m, 47 lbf·ft)

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

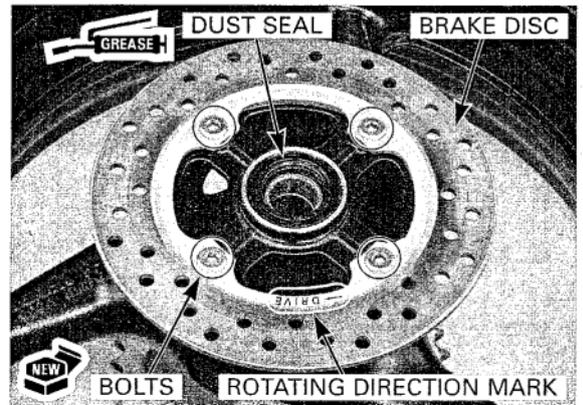


Install the brake disc with its direction of rotation mark facing out.

Install and tighten the new bolts to the specified torque.

TORQUE: 42 N·m (4.3 kgf·m, 31 lbf·ft)

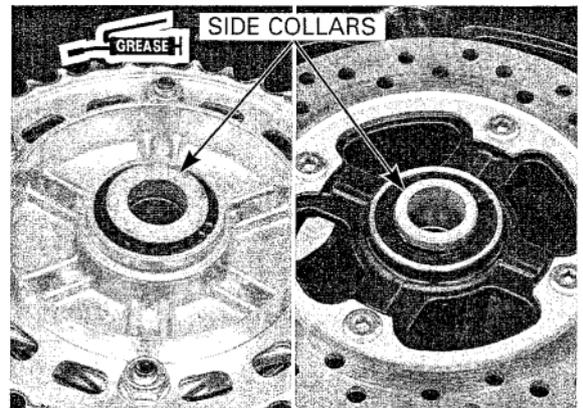
Apply grease to the dust seal lips, then install it into the wheel hub.



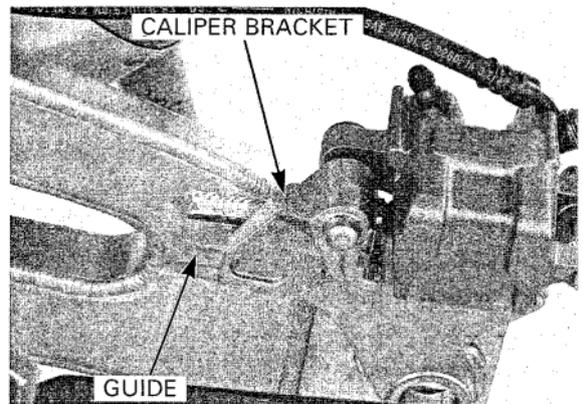
INSTALLATION

Apply grease to the side collar inside and grooves.

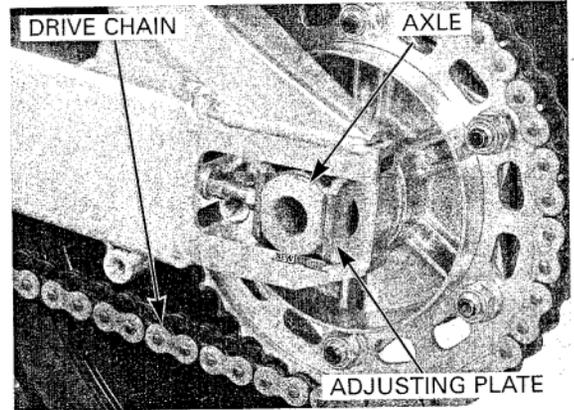
Install the side collars.



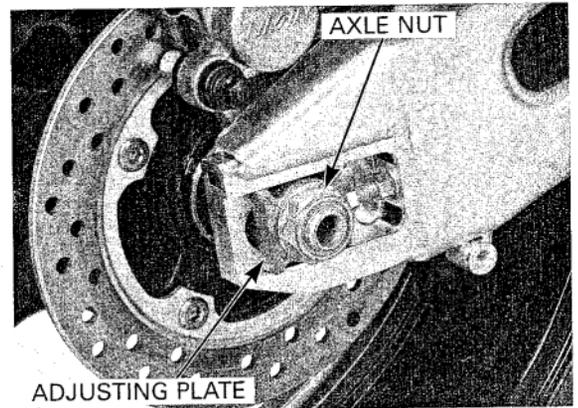
Install the rear brake caliper bracket onto the guide of the swingarm.



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



Install the drive chain adjusting plate and axle nut.
 Adjust the drive chain slack (page 3-20).
 Tighten the axle nut to the specified torque.
TORQUE: 113 N·m (11.5kgf·m, 83 lbf·ft)

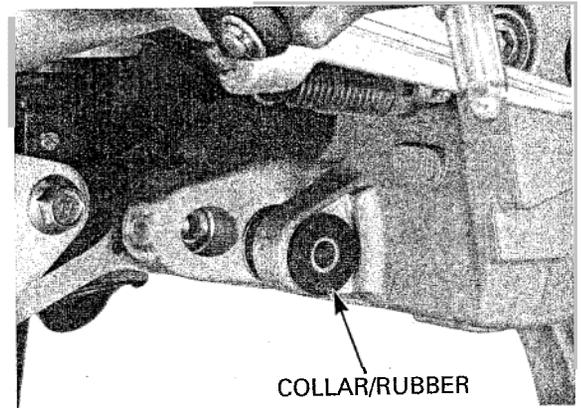


SUSPENSION LINKAGE

REMOVAL

Support the motorcycle using a hoist or equivalent, and raise the rear wheel off the ground.
 Remove the muffler and exhaust pipe (page 2-13).

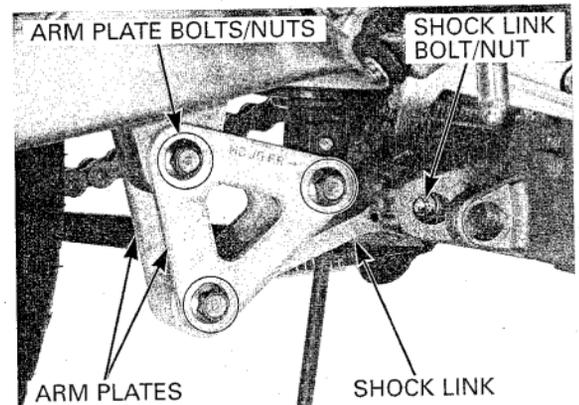
Remove the exhaust pipe mounting collar and mounting rubber.



- Remove the following:
- Shock arm plate bolts/nuts
 - Shock arm plates
 - Shock link bolt/nut
 - Shock link

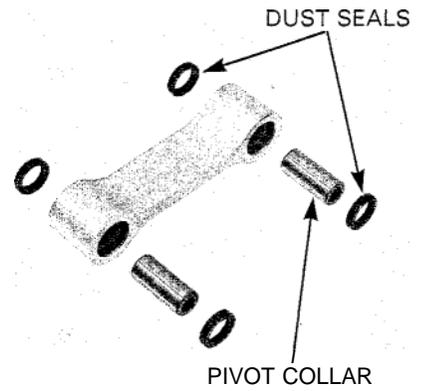
INSPECTION

Check that the suspension linkage components for damage, replace any damaged components.



SHOCK LINK BEARING REPLACEMENT

Remove the pivot collar and dust seals.



Press out the needle bearing out of the shock link using the special tools.

TOOLS:

Driver

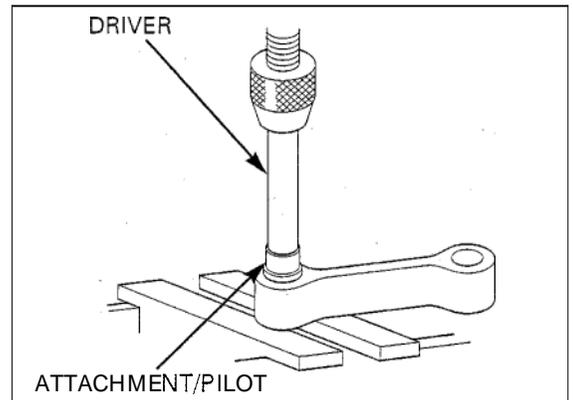
07949-3710001

Attachment, 22 x 24 m m

07746-0010800

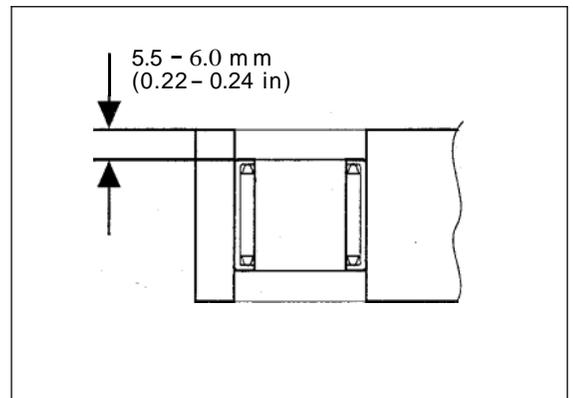
Pilot, 17 m m

07746-0040400

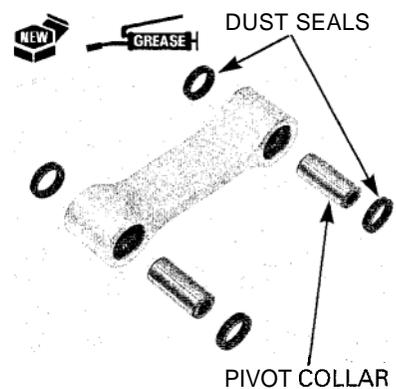


Press the needle bearing into the shock arm with the marked side facing out

Press a new needle bearing into the shock arm so the needle bearing surface is lower 5.5 – 6.0 mm (0.22 – 0.24 in) from the end of the shock link using the same tools.



Apply grease to the new dust seal lips, install them into the shock link.
Install the pivot collar.



INSTALLATION

Install the shock link into the lower bracket, install the mounting bolt/nut.
Hold the socket bolt and tighten the nut to the specified torque.

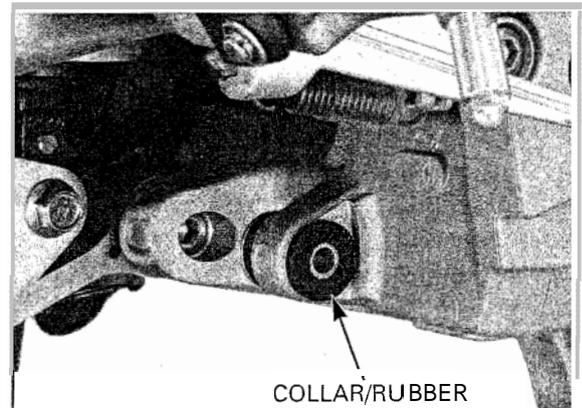
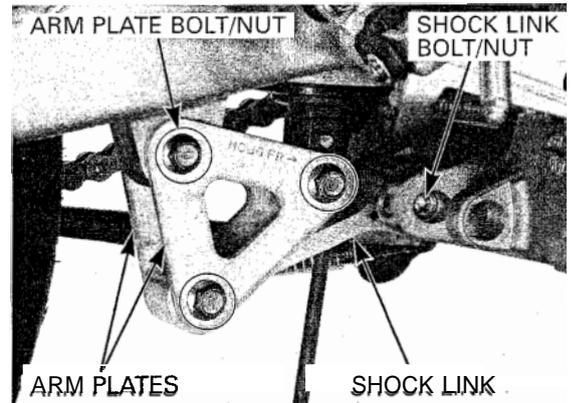
TORQUE: 44 N•m (4.5 kgf•m, 33 lbf•ft)

Install the shock arm plates with its "FR" mark facing forward.
Install the shock arm plate bolts/nuts, then tighten the nuts to the specified torque.

TORQUE: 44 N•m (4.5 kgf•m, 33 lbf•ft)

Install the exhaust pipe mounting rubber and collar.

Install the exhaust pipe and muffler (page 2-16).



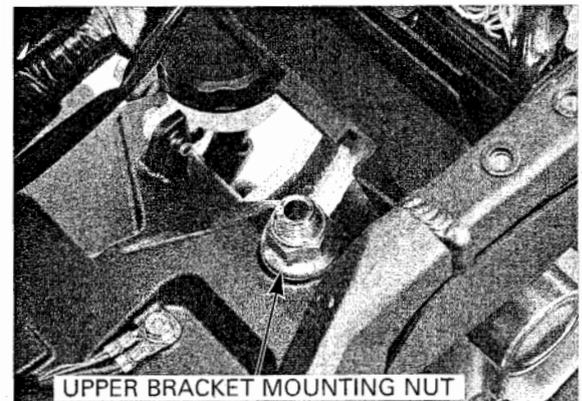
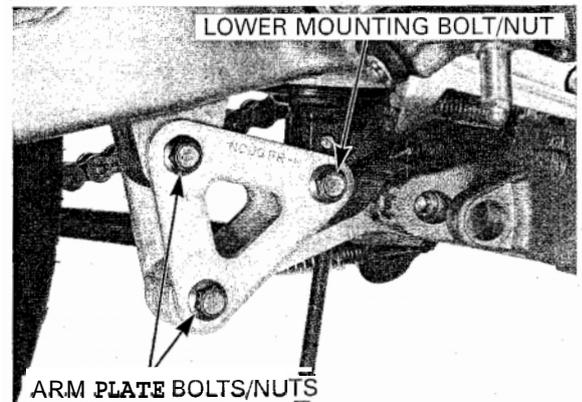
SHOCK ABSORBER

REMOVAL

Support the motorcycle using a hoist or equivalent.

Remove the shock absorber lower mounting bolt/nut.
Remove the shock arm plate bolts/nuts and link plates.

Loosen and remove the shock absorber upper mounting nut.
Lower the shock absorber, then remove.



INSPECTION

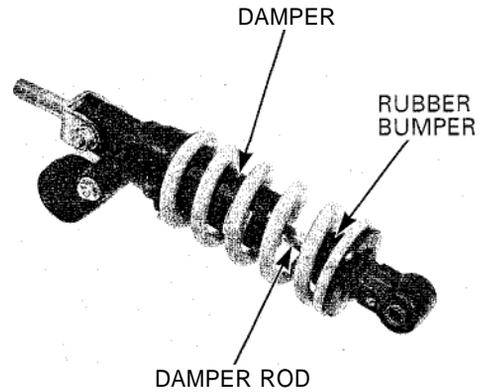
Visually inspect the shock absorber for damage.

Check the:

- Damper rod for bends or damage
- Damper unit for deformation or oil leaks
- Rubber bumper for wear or damage

Inspect all the other parts for wear or damage.

If necessary, replace the shock absorber as an assembly.



NEEDLE BEARING REPLACEMENT

Remove the pivot collar and dust seals.

Press out the needle bearing out of the shock absorber lower mount using the special tools.

TOOLS:

Driver

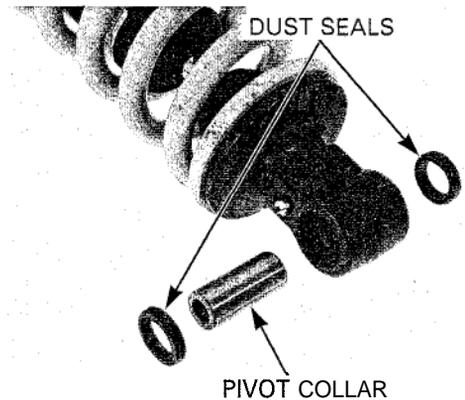
07949-3710001

Attachment, 22 x 24 mm

07746-0010800

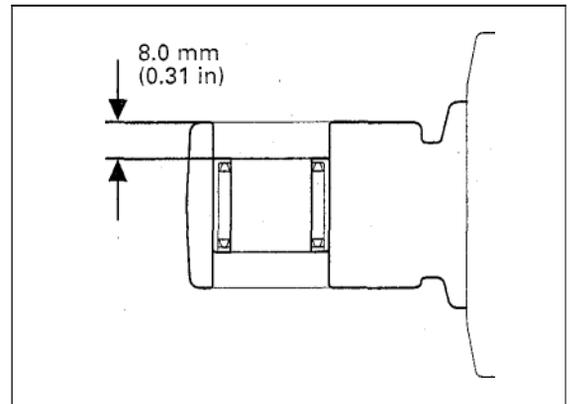
Pilot, 17 mm

07746-0040400

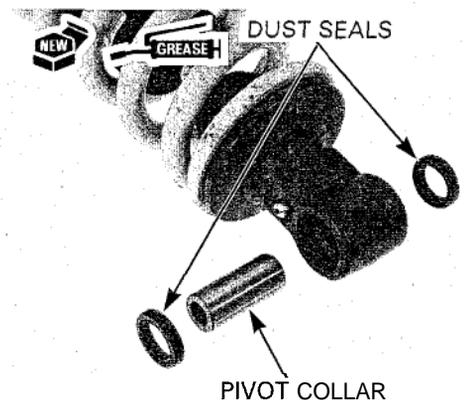


Press the needle bearing into the lower mount with the marked side facing out.

Press a new needle bearing into the lower mount so that the needle bearing surface is lower 8.0 mm (0.31 in) from the end of the lower mount using the same tools.

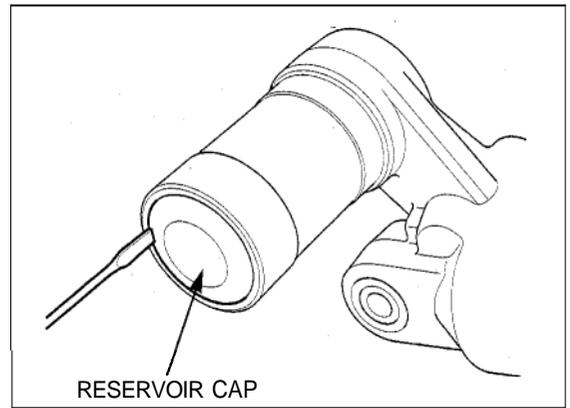


Apply grease to the new dust seal lips, install them into the lower mount. Install the pivot collar.



SHOCK ABSORBER DISPOSAL PROCEDURE

Remove the damper reservoir cap.

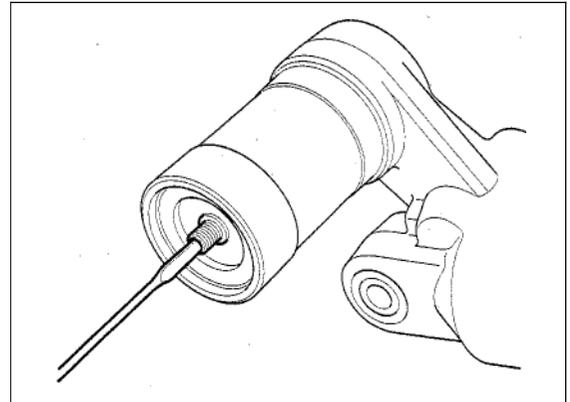


Do not remove the valve core until pressure is released.

Put on safety glasses, then release the nitrogen from the reservoir by depressing the valve core.

NOTICE

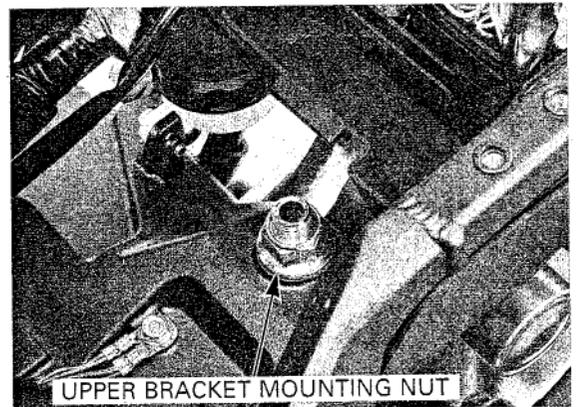
- Point the valve away from you to prevent debris getting in your eyes.
- Before disposing of the shock absorber, release the nitrogen by pressing the valve core. Then remove the valve from the shock absorber reservoir.



INSTALLATION

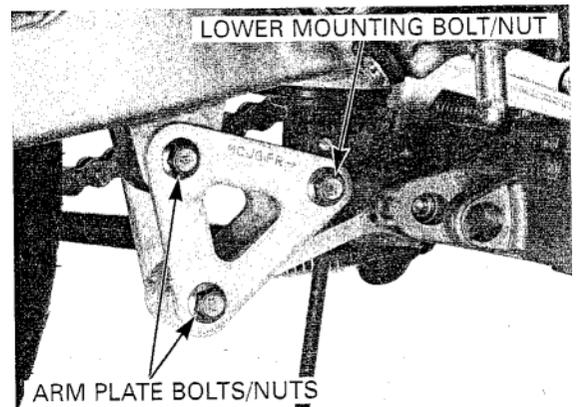
Install the shock absorber into the frame from the bottom, and install the upper mounting bolt/nut. Tighten the nut to the specified torque.

TORQUE: 93 N·m (9.5 kgf·m, 69 lbf·ft)



Install the shock arm plates, arm plate bolts/nuts and shock absorber lower mounting bolt/nut. Tighten the nuts to the specified torque.

TORQUE: 44 N·m (4.5 kgf·m, 33 lbf·ft)

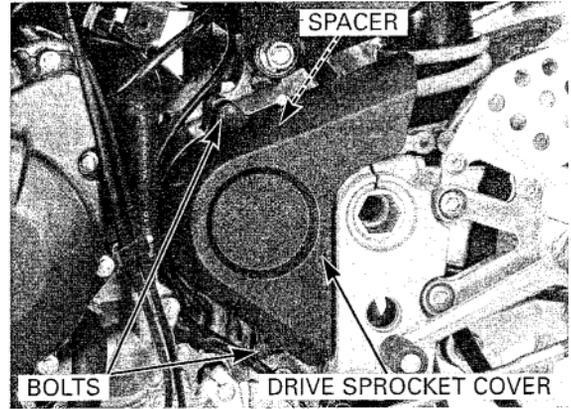


SWINGARM

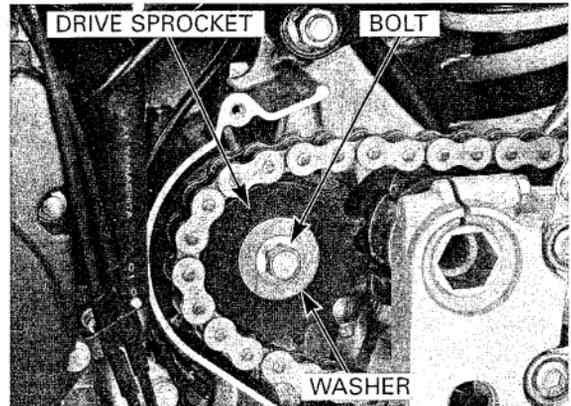
REMOVAL

Remove the rear wheel (page 14-3)

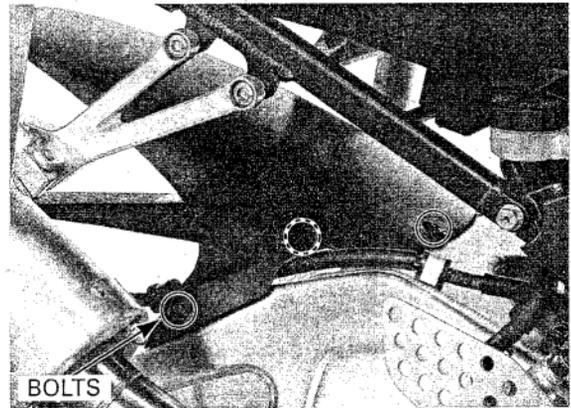
Remove the two SH bolts and drive sprocket cover and spacer.



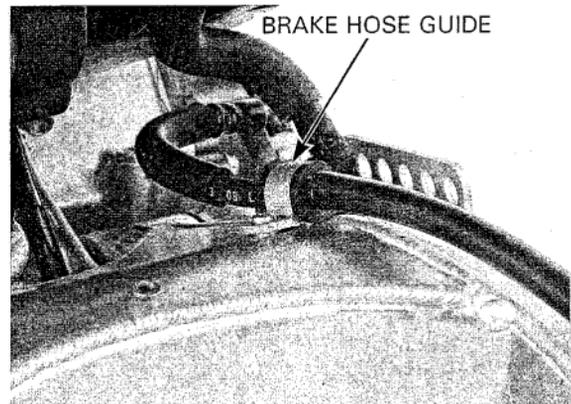
Remove the drive sprocket bolt, washer and drive sprocket.



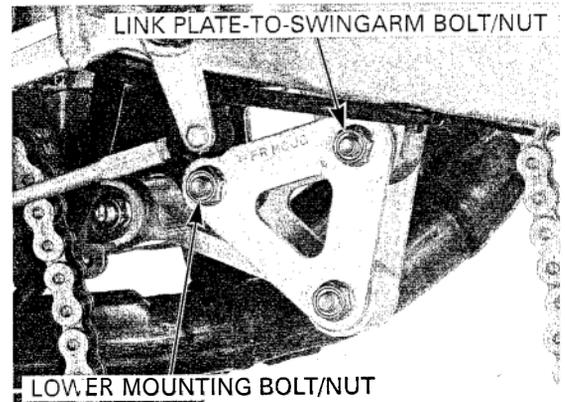
Remove the bolts and inner fender.



Remove the screws and brake hose guides.



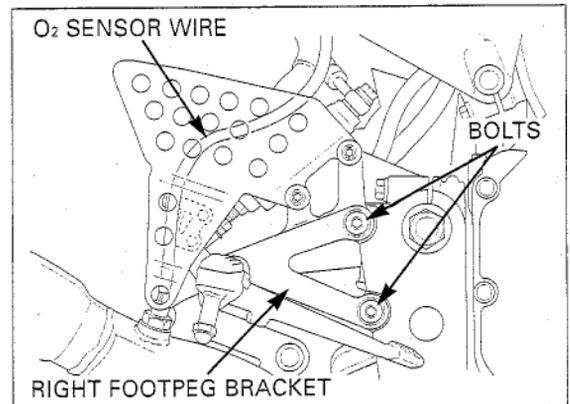
Remove the shock absorber lower mounting bolt/nut.
Remove the shock arm plate-to-swingarm bolt/nut.



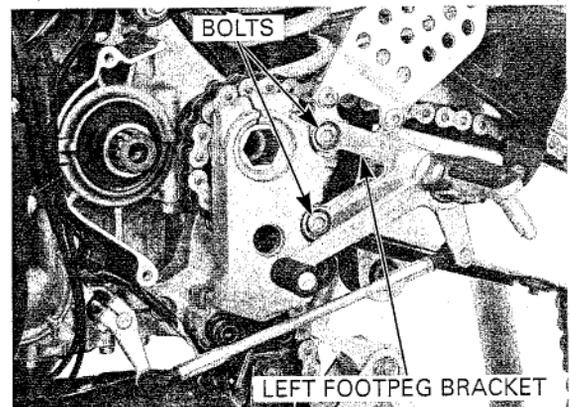
Remove the right main footpeg bracket socket bolts and main footpeg bracket.

*California type
only*

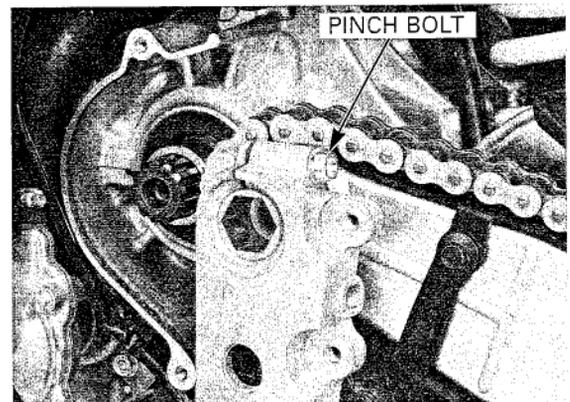
Release the O₂ sensor wire from the wire guide behind the right step guard.



Remove the bolt and gearshift link arm from the gearshift spindle.
Remove the left main footpeg bracket socket bolts and main footpeg bracket.



Loosen the swingarm pivot pinch bolts.



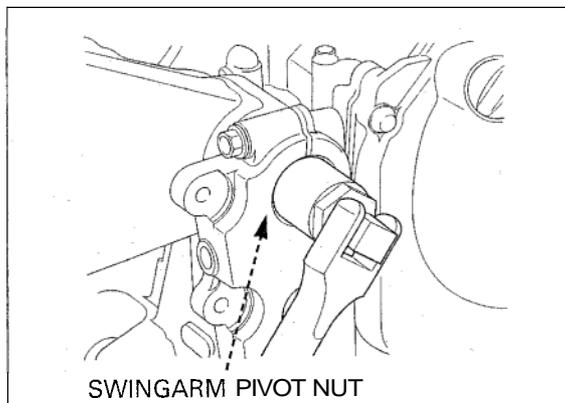
REAR WHEEL/SUSPENSION

Hold the pivot bolt using a special tool, then loosen and remove the swingarm pivot nut using the same tool.

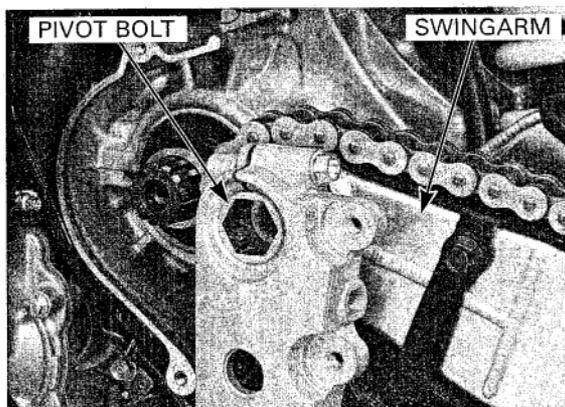
TOOL:

Rod holder, 24 x 27 mm

07930-KA50100

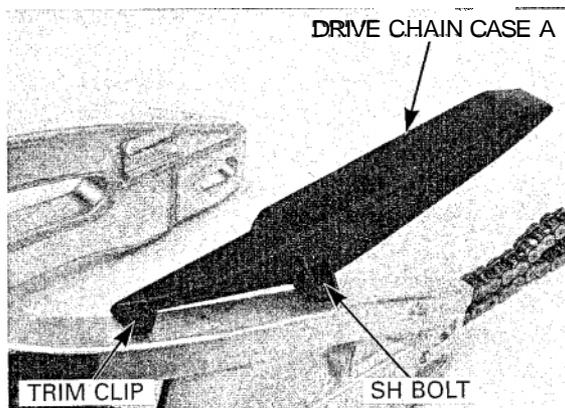


Remove the pivot bolt and then remove the swingarm from the lower bracket and engine.

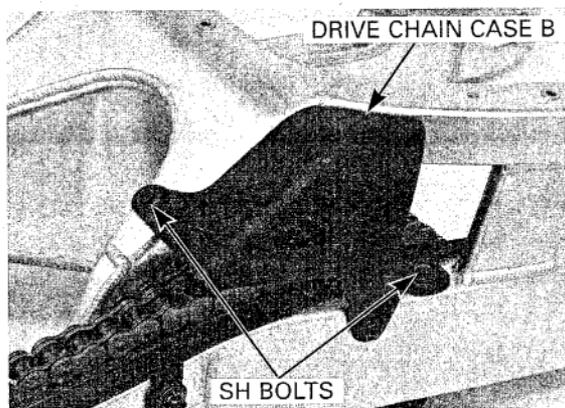


DISASSEMBLY/INSPECTION

Remove the SH bolt, trim clip and drive chain case A

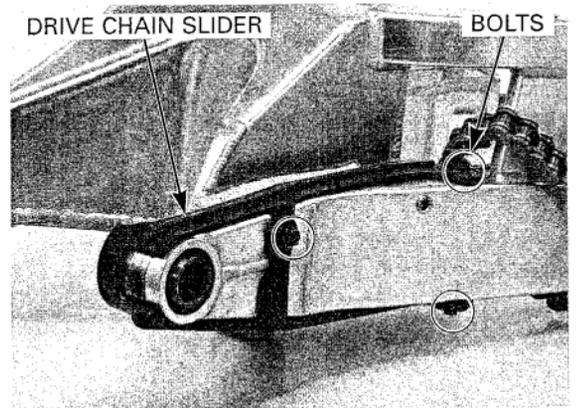


Remove the SH bolts and drive chain case B.



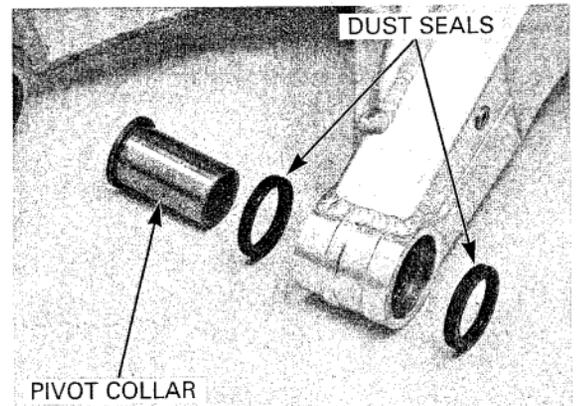
Remove the three SH bolts and drive chain slider.

Check the drive chain slider for wear or damage.



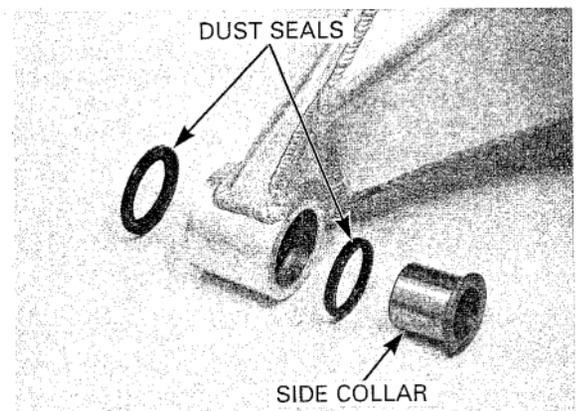
Remove the pivot collar and dust seals from the swingarm left pivot.

Check the dust seals and collar for damage or fatigue.



Remove the side collar and dust seals from the swingarm right pivot.

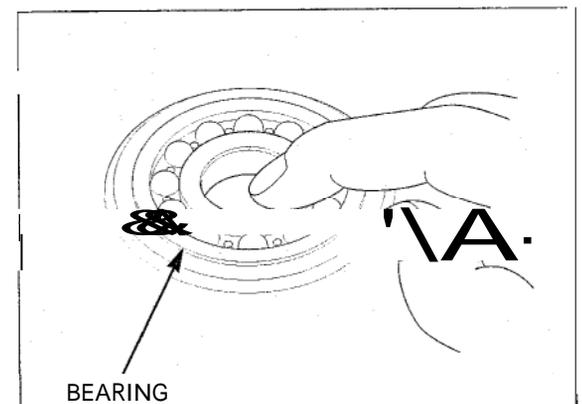
Check the dust seals and side collar for damage or fatigue.



Turn the inner race of right pivot bearings with your finger.

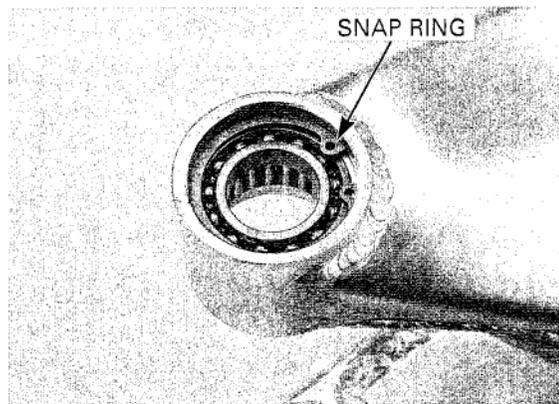
The bearings should turn smoothly and quietly. Also check that the bearing outer race fits tightly in the hub.

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

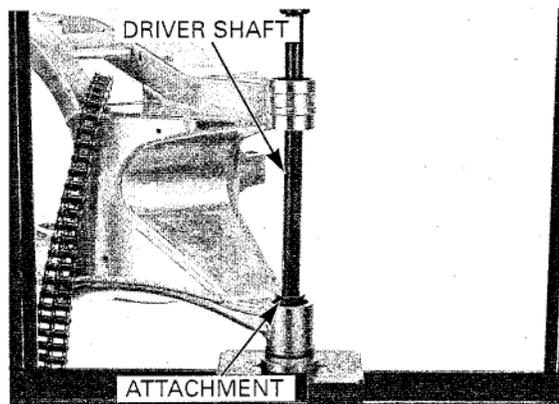
Remove the snap ring from the swingarm right pivot.



Remove the right pivot bearings (radial ball bearing and needle bearing) from the swingarm pivot using the special tools and hydraulic press.

TOOLS:

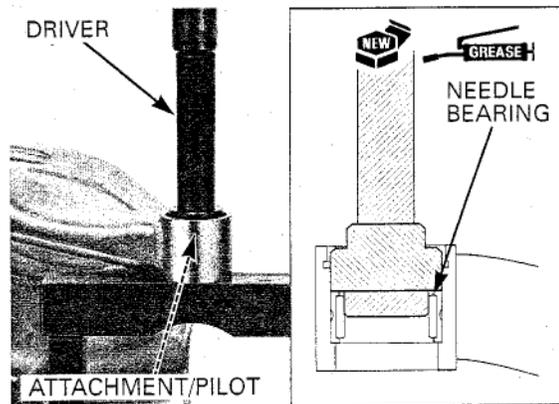
Driver shaft 07946-MJ00100
Driver attachment, 25 x 38.5 mm 07YMD-MCJ0100



Pack a new needle bearing with grease.
Press the inner bearing into the swingarm right pivot until it seats using the special tools and hydraulic press.

TOOLS:

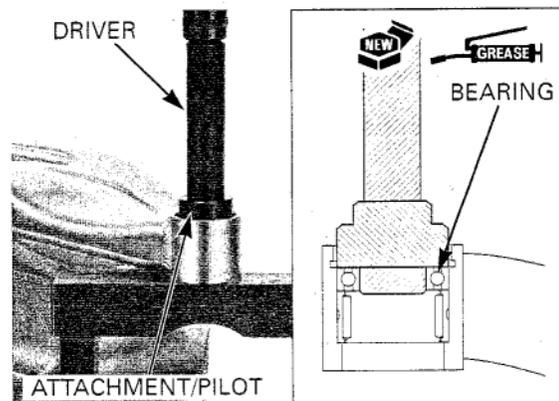
Driver 07749-0010000
Attachment, 40 x 42 mm 07746-0010900
Pilot, 25 mm 07746-0040600



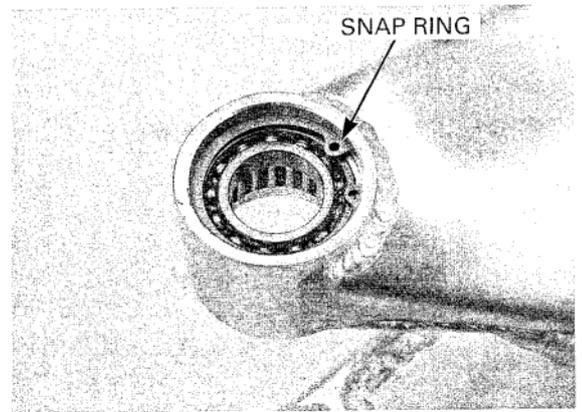
Pack a new bearing with grease.
Install the outer bearing using the special tools.

TOOLS:

Driver 07749-0010000
Attachment, 40 x 42 mm 07746-0010900
Pilot, 25 mm 07746-0040600



Install the snap ring into the groove securely.



Remove the left pivot needle bearing from the swingarm pivot using the special tools.

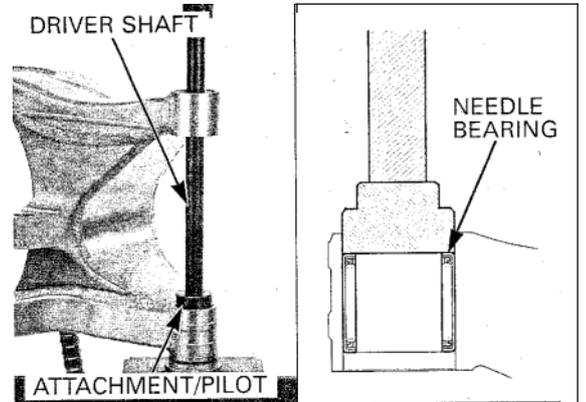
TOOLS:

Driver

07749-0010000

Attachment, 40 x 42 mm

07746-0010900



Pack a new needle bearing with grease.

Press the needle bearing into the swingarm with the marked side facing out

Press a new left pivot needle bearing into the swingarm pivot so that the needle bearing surface is lower 7.0 - 8.0 mm (0.28 - 0.31 in) from the end of the swingarm pivot surface using the special tools.

TOOLS:

Driver

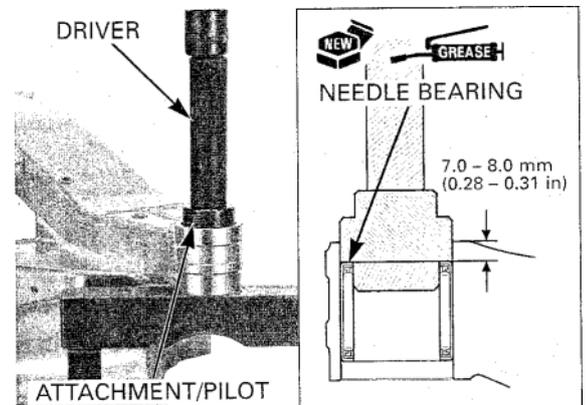
07749-0010000

Attachment, 40 x 42 mm

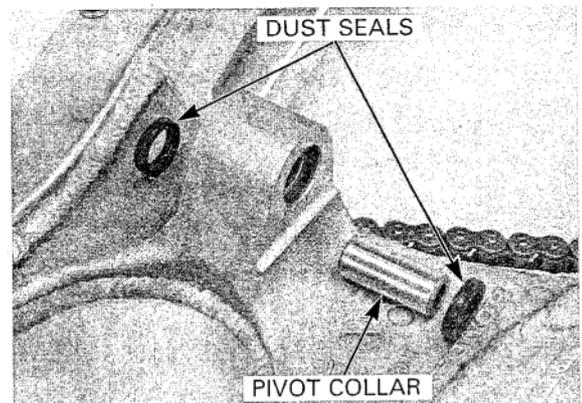
07746-0010900

Pilot, 32 x 50 mm

07MAD-PR90200



Remove the pivot collar and dust seals from the shock arm pivot.

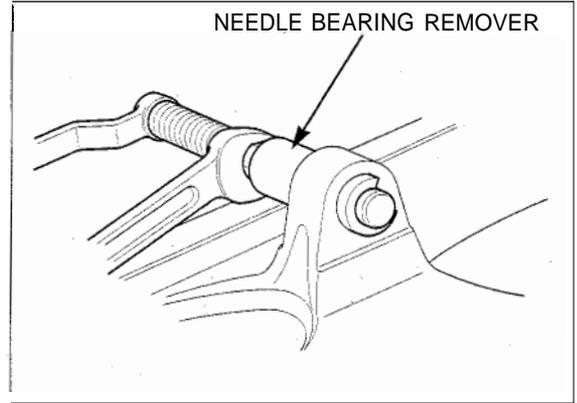


REAR WHEEL/SUSPENSION

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

TOOL:

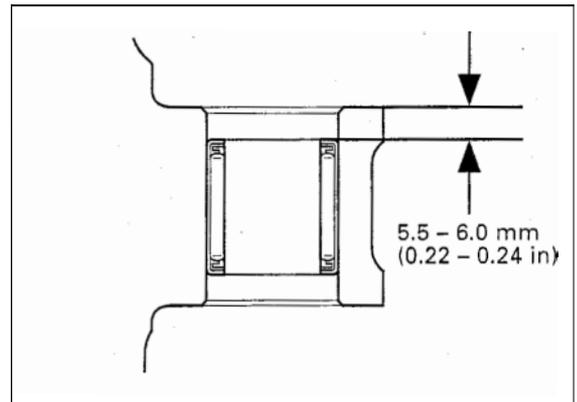
Needle bearing remover 07LMC-KV30100



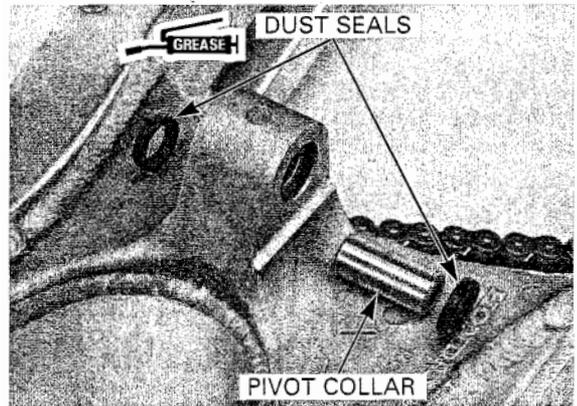
Install the shock arm pivot needle bearing into the swingarm so the needle bearing surface is lower 5.5 - 6.0 mm (0.22 - 0.24 in) from the end of the pivot surface using the same tool.

TOOL:

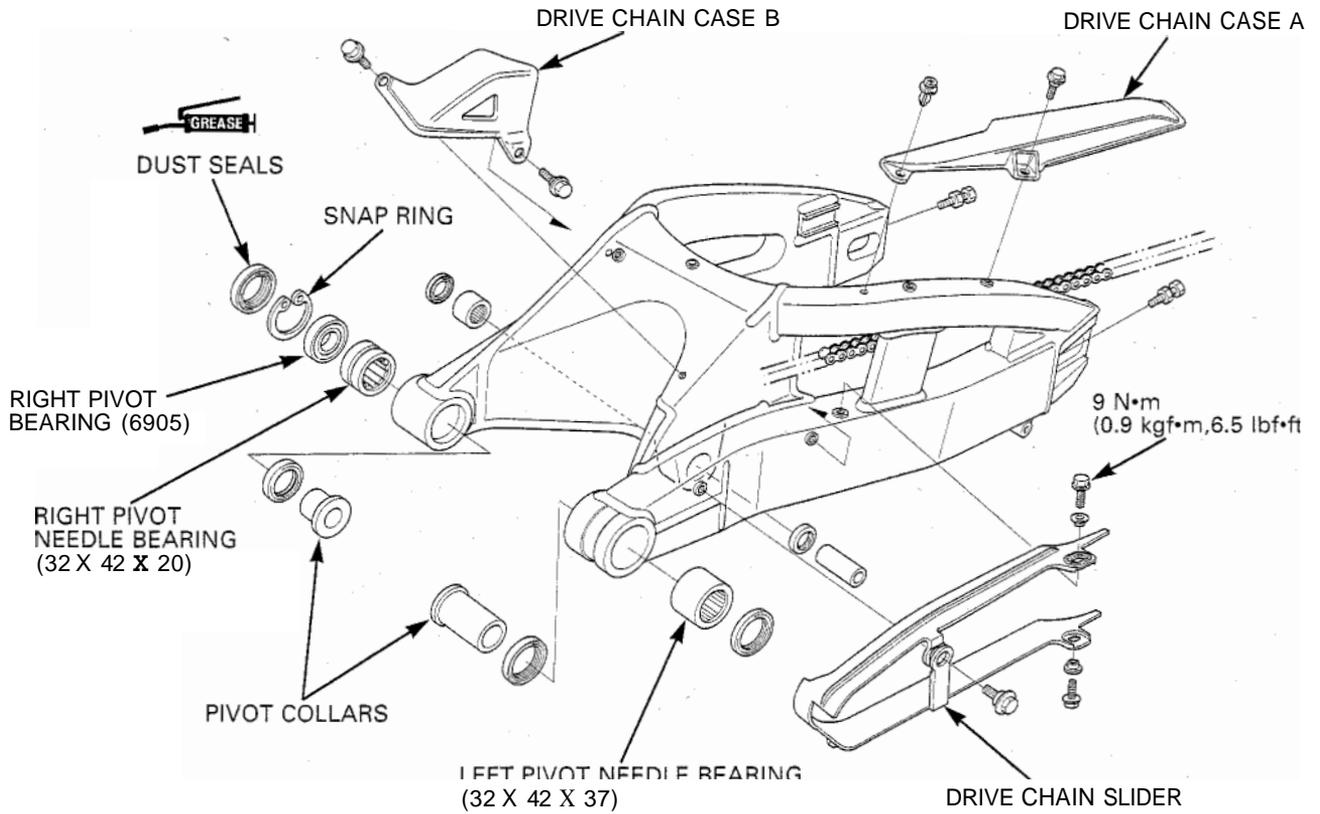
Needle bearing remover 07LMC-KV30100



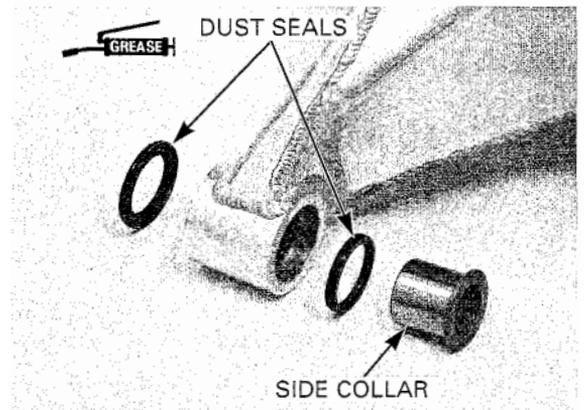
Apply grease to the dust seal lips, then install the dust seals and pivot collar into the swingarm.



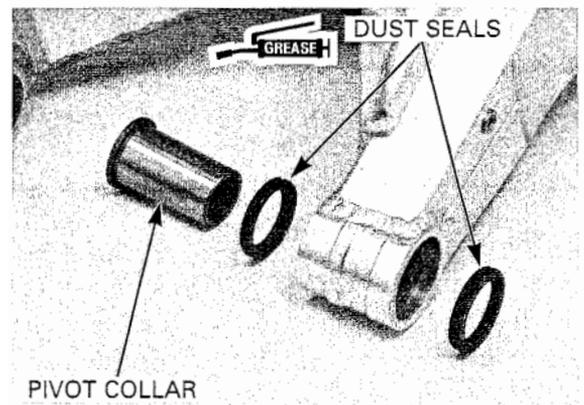
ASSEMBLY



Apply grease to the dust seal lips, then install the dust seals and side collar into the right swingarm pivot.

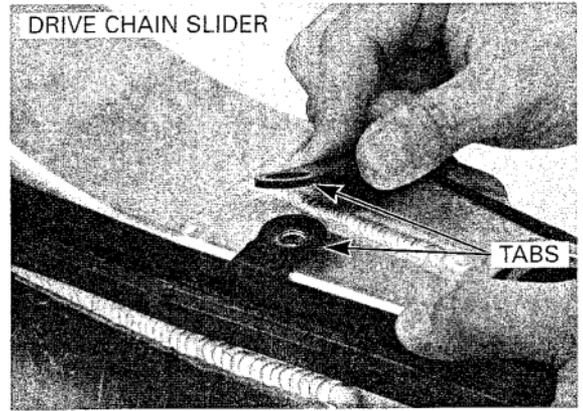


Apply grease to the dust seal lips, then install the dust seals and pivot collar into the left swingarm pivot.



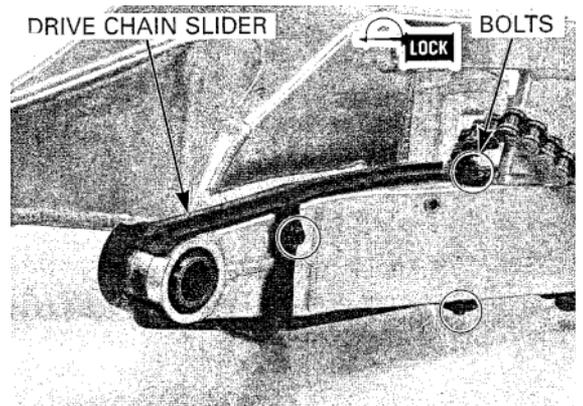
REAR WHEEL/SUSPENSION

Install the drive chain slider aligning its tabs with the boss on the swingarm as shown.

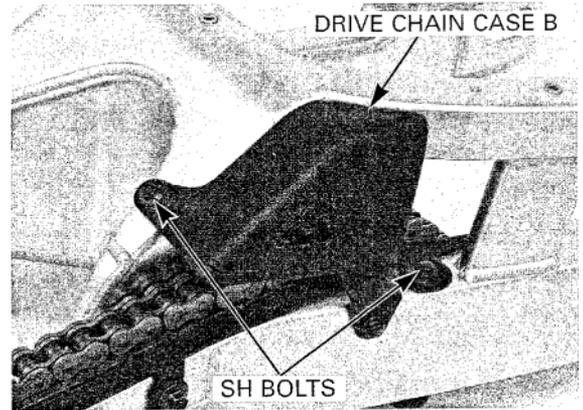


Apply a locking agent to the drive chain slider bolt threads.
Install the collars and bolts, then tighten the bolts to the specified torque.

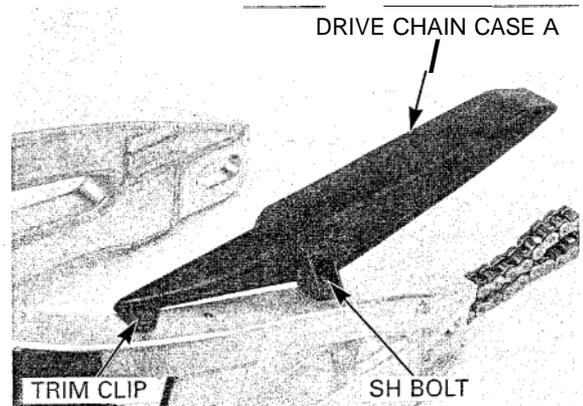
TORQUE: 9 N·m (0.9 kgf·m, 6.5 lbf·ft)



Install drive chain case B and tighten the SH bolt securely.

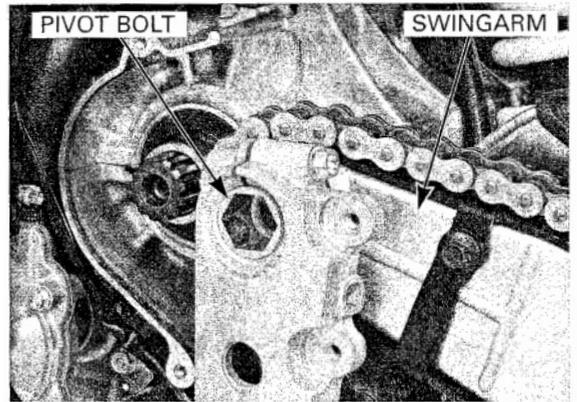


Install drive chain case A and secure it with a SH bolt and trim clip.



INSTALLATION

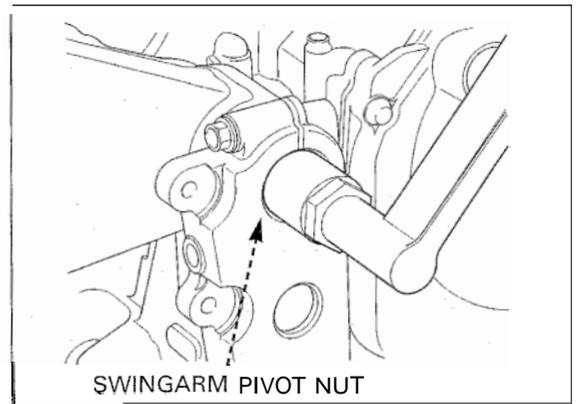
Apply a thin coat of grease to the swingarm pivot bolt surface.
 Install the swingarm between the lower bracket and engine, then install the pivot bolt from the left side.



Install the swingarm pivot nut.
 Hold the pivot bolt using a special tool, tighten the swingarm pivot nut to the specified torque using the same tool.

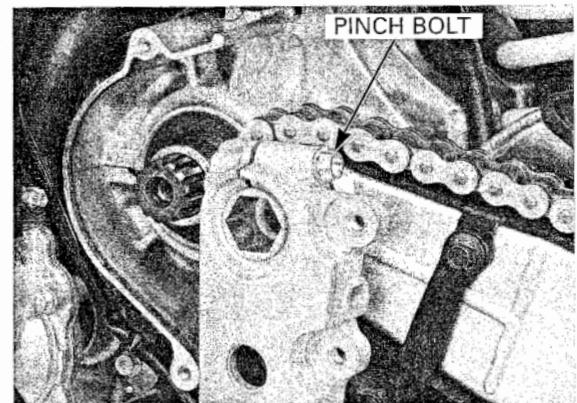
TOOL:
Rod holder, 24 x 27 mm 07930-KA50100

TORQUE: 118 N·m (12.0 kgf·m, 87 lbf·ft)



Tighten the swingarm pivot pinch bolts to the specified torque.

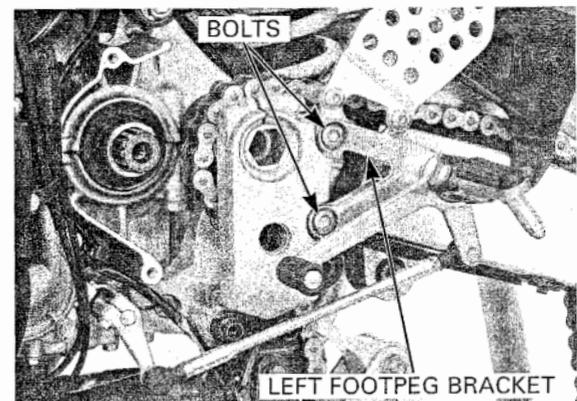
TORQUE: 26 N·m (2.7 kgf·m, 20 lbf·ft)



Install the left main footpeg bracket onto the lower bracket and tighten the socket bolts to the specified torque.

TORQUE: 39 N·m (4.0 kgf·m, 29 lbf·ft)

Install the gearshift pedal link (page 9-17).

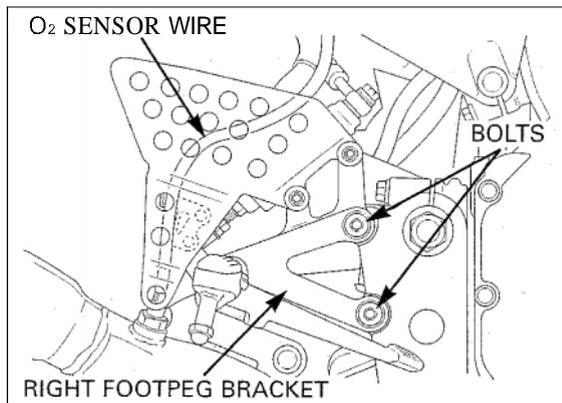


REAR WHEEL/SUSPENSION

California type only Clamp the O₂ sensor wire to the wire guide behind the right step guard.

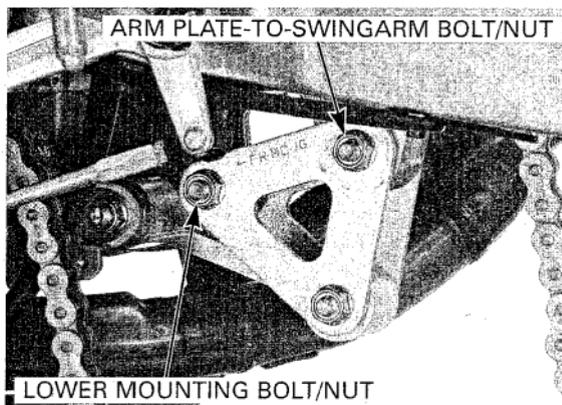
Install the right main footpeg bracket onto the lower bracket and tighten the socket bolts to the specified torque.

TORQUE: 39 N•m (4.0 kgf•m, 29 lbf•ft)



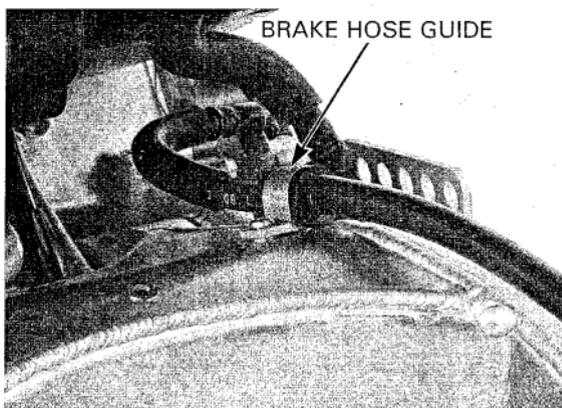
Install the shock arm plate-to-swingarm bolt/nut, then tighten the nut to the specified torque.

TORQUE: 44 N•m (4.5 kgf•m, 33 lbf•ft)



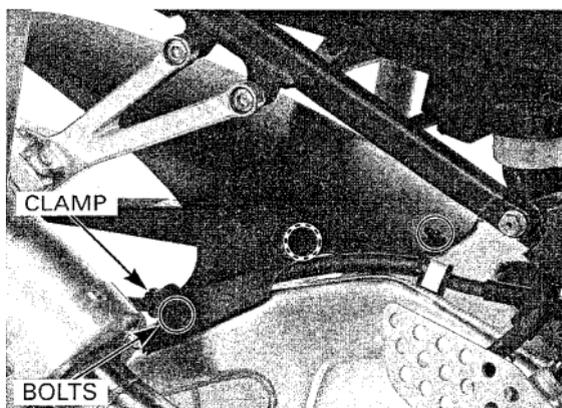
Install the brake hose guide and tighten the screw to the specified torque.

TORQUE: 4 N•m (0.4 kgf•m, 2.9 lbf•ft)



Tighten the right rear mounting bolt with a brake hose clamp

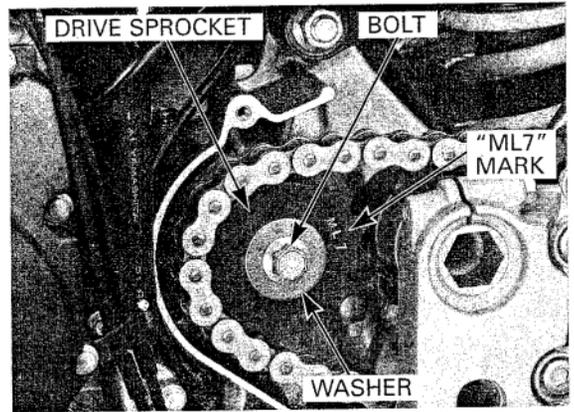
Install the inner fender and tighten the mounting bolts.



Install the drive sprocket with its "ML7" mark facing out.

Install the washer and special bolt, then tighten the bolt to the specified torque.

TORQUE: 54 N·m (5.5kgf·m, 40 lbf·ft)



Install the spacer and drive sprocket cover, tighten the SH bolts.

Install the rear wheel (page 14-8).

Install the removed parts in the reverse order of removal.

